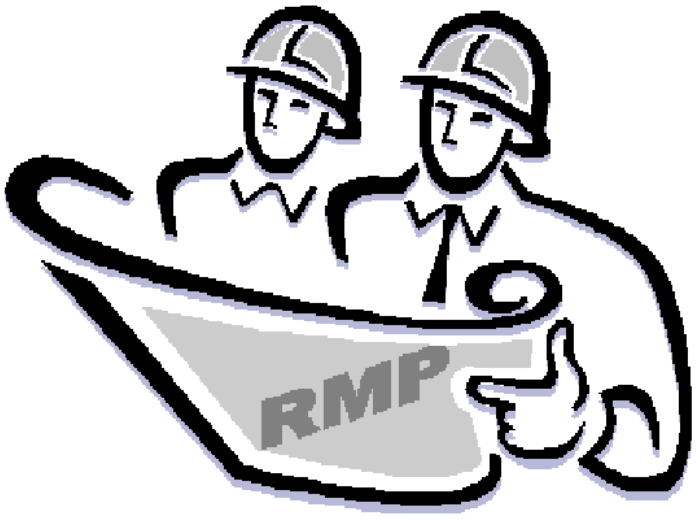
OES
CALIFORNIA
Governor's Office of
Emergency Services

California Accidental Release Prevention (CalARP) Program

Administering Agency Guidance



August 28, 2003

Preface

This document provides general guidance to help Administering Agencies (AAs) implement and enforce the California Accidental Release Prevention (CalARP) Program. The intent is to identify the elements of the Program applicable to each regulated business, and assist AAs with oversight of the CalARP Program statutes and regulations. This document is not a substitute for the CalARP Program regulations; it does not impose legally binding requirements.

About This Document

This document follows the format of the California Code of Regulations, Title 19, Division 2, Chapter 4.5: California Accidental Release Prevention (CalARP) Program. The regulatory sections are presented in parentheses for ease of reference.

Acknowledgements

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INTRODUCTION

The California Accidental Release Prevention (CalARP) Program

The CalARP Program was established in California to prevent accidental releases of those substances determined to potentially pose the greatest risk of immediate harm to the public and the environment. The planning activities required by the Program are intended to minimize the possibility of an accidental release by encouraging engineering and administrative controls. The Program is further intended to mitigate the effects of an accidental release, should one occur, by requiring an emergency response program. The CalARP Program is the federal "Risk Management Program" or "Federal Accidental Release Prevention (FedARP) Program," established in regulation[1] by the United States Environmental Protection Agency (USEPA), but has additional requirements specific to the State of California, in accordance with the California Health and Safety Code (HSC)[2]. The Governor's Office of Emergency Services (OES) adopted the regulations[3] that outline the CalARP Program requirements for all regulated businesses and the agencies that implement the Program in California (CalARP Program regulations). The CalARP Program incorporates federal requirements including newly developed federal requirements. It is the intent of the California Legislature that compliance with the provisions of the CalARP Program satisfies the requirements of the FedARP Program.

The CalARP Program applies to a wide variety of facilities (stationary sources). A facility that handles, manufactures, uses, or stores any of the listed chemicals (regulated substances) in a process, above the threshold quantities in Appendix A of this guidance, may be subject to the CalARP Program requirements.

Administering Agencies (AAs)

AAs are the local government agencies authorized to implement and enforce the CalARP Program in California. AAs are also known as Certified Unified Program Agencies, Participating Agencies, or Designated Agencies, and are collectively called Unified Program Agencies.

AAs ensure that regulated facilities meet the requirements of the CalARP Program and determine the appropriate level of detail for the Risk Management Plan (RMP). Each facility is required to work closely with the AA for guidance to implement the CalARP Program and create the RMP.

AAs collect the State Surcharge for all elements of the Unified Program, including the CalARP Program. OES does not have the authority to provide decisions related to the amount or collection of the Surcharge. Establishment and collection of the State Surcharge for all of the Unified Program elements, including the CalARP Program, is under the authority of the Secretary of California Environmental Protection Agency (Cal/EPA).

1 Part 68, Title 40, Code of Federal Regulations
2 California Health and Safety Code, Chapter 6.95, Article 2, Sections 25531-25543.3
3 Chapter 4.5, Division 2, Title 19, California Code of Regulations

Intent of Guidance Document

This document is a working draft and is intended to provide AAs with a guidance "tool" to assist in the implementation of the CalARP Program. AAs should:

- Determine if facilities must comply with the CalARP Program;
- Determine the specific CalARP Program requirements which are applicable to covered processes at facilities within their jurisdiction;
- Coordinate with facility owners and operators for Program implementation; and
- Ensure that facilities maintain compliance with the Program.

There are other guidance materials, such as those developed by AAs and USEPA, which may be referenced and used in combination with this document. Certain sections of these materials have been included in this guidance. Appendix I lists USEPA as well as other sources of information available.

The FedARP Program has been revised several times since the CalARP Program regulations were adopted. Examples of such revisions include: replacing SIC codes with NAICS codes, adding confidential business information requirements, etc. The federal flammable fuels exclusion revision was included in the CalARP Program regulations effective October 10, 2002. Other FedARP Program revisions will be made to the CalARP Program in the future. Appendix J identifies Federal Registers with the various revisions from 1998 to 2003.

"Program Evaluation Notes" boxes have been placed throughout this document to highlight the questions asked during the triennial Unified Program Evaluation and indicate what OES evaluators require. These notes appear in the following type of box:

Program Evaluation Notes

Evaluation Question:

Demonstration of Compliance:

This document also provides helpful comments from the AA's perspective. These comments were not written by OES staff, but were created by AAs. They appear in the following type of box:

AA Perspective

What to look for in…

In many cases the regulations do not need an additional interpretation included in this guidance document. In these cases, this guidance will simply direct the reader back to the regulations.

The following conventions will be used throughout this guidance (note: these conventions do not apply to the Program Evaluation Notes, which are taken directly from the CalARP Program regulations):

- Facility: a "stationary source" with more than a threshold quantity of a regulated substance (or chemical) as found on Table 1, Table 2, or Table 3 of Section 2770.5 of the CalARP Program regulations, in a process. At times the document may suggest that the "facility" must complete an action; we recognize that it is the "owner or operator" of the facility, as defined in the CalARP Program regulations, that actually accomplishes the action.

- Table 1 or Table 2 facility: a facility with more than a threshold quantity of a Table 1 or Table 2 chemical in a process. (Table 1 and Table 2 in the CalARP Program regulations are identical to Table 1 and Table 2 in the FedARP Program regulations). Exceeding a threshold on Table 1 or Table 2 requires compliance with the FedARP Program elements. See Appendix A for a summary of regulated chemicals and thresholds.

- Table 3 facility: a facility with more than a threshold quantity of a Table 3 chemical in a process, but less than a Table 1 threshold, if applicable. (Some toxic chemicals appear on both Table 1 and Table 3, but with different threshold quantities). See Appendix A for a summary of regulated chemicals and thresholds. Since Table 3 is unique to the CalARP Program, facilities in this category are not required to comply with the FedARP Program, only the "state" program elements. But recognize that all of the federal requirements are incorporated into the "state" program.

- Tables and Exhibits: Tables and Exhibits contained herein and referenced to USEPA's "General Guidance for Risk Management Programs" are closely based on the referenced USEPA material but may be modified to better reflect the CalARP Program and its emphasis on AAs. These modifications are not in any way intended to change the intent or use of the Federal guidance.

General Duty Clause

The General Duty Clause, pursuant to Section 112(r)(1) of the Federal Clean Air Act, requires a facility that handles hazardous materials to operate safely. Neither the FedARP Program, nor the CalARP Program limits the provisions of the General Duty Clause in any way. Violations of the General Duty Clause can lead to substantial federal penalties. Only the federal government can enforce the General Duty Clause.

Recommended Initial Actions for AAs to Establish a CalARP Program

These recommendations provide a discussion of AA activities that are addressed in detail in the remainder of this document. AAs should:

1. Review appropriate state and federal accidental release prevention program laws, the CalARP Program regulations, this guidance, and other appropriate guidance to develop a strategy for implementing a quality program.

Appendix I contains a list of additional resources that can provide a more complete understanding of the intent of state and federal laws. The AA should develop a plan to implement the CalARP Program pursuant to established laws and regulations.

2. Identify facilities that may be subject to the CalARP Program.

Are there facilities with more than a threshold quantity of a regulated substance in a process in my jurisdiction?

Business Plan Program inventory information may be helpful in this identification. Local fire departments, environmental health departments, air districts, or other permit issuing agencies may provide valuable information. Types of facilities typically subject to the CalARP Program include, but are not limited to:

- Chemical manufacturers and wholesalers;
- Ammonia refrigeration facilities;
- Food processors;
- Water and wastewater treatment facilities;
- Petroleum production and refining facilities;
- Primary and secondary metal manufacturers, including plating facilities;
- Pulp and paper mills;
- Agricultural wholesalers and retailers;
- Fuel storage and distribution facilities;
- Electric generating utilities, i.e. power plants;
- Community swimming pools; and
- Federal installations, such as Department of Defense or Department of Energy facilities.

3. Evaluate identified facilities to determine if there are process(es) covered by the CalARP Program.

Each facility with a regulated substance, in excess of the threshold quantity, in a process, may be mandated to implement the CalARP Program. There are some exceptions to this general rule as described in Chapter 1 of this document (Applicability). The definition of "process" is a key element to the Program. It is possible for a facility to have more than a threshold quantity of a regulated substance onsite and not be in the Program. The facility

needs to have more than a threshold quantity of a regulated substance in a process to be covered by the rule. The definition of "process" is covered in Chapter 1 of this document, and presented in graphically in Exhibit 1-2.

4. Coordinate with facilities to determine which Program Level is appropriate for each covered process.

The CalARP Program has three Program Levels that relate to the accident potential at the facility. The AA should directly communicate with the owner or operator of a facility that may be subject to the CalARP Program. The AA should assess each facility and coordinate to correctly identify the appropriate Program Level for each process. (See "Applicability" in Chapter 1 and Exhibit 1-4.)

"Covered processes" will have requirements that vary in complexity depending upon the Program Level to which they are subject. The following chapters will discuss the requirements for covered processes, Program Levels, and provide an overview of the CalARP Program regulatory requirements.

5. AAs should ensure that other existing "risk management" type activities are integrated with the implementation of the CalARP Program.

The CalARP Program addresses chemical safety for chemical facilities with covered processes. AAs need to consider how the implementation of the CalARP Program should be integrated with existing city, county, operational areas, State emergency response management systems, and their respective plan components. Examples include the State of California Emergency Plan, the Standardized Emergency Management System (SEMS), duly approved local emergency plans (Area Plan), the emergency response element of the Business Plan Program, and the Local Emergency Planning Committee's Regional Plan.

Chapter 1. General (Article 1)

Selected Definitions (Section 2735.3)

The following definitions are key to the CalARP Program:

- **Stationary source (referred to as "facility" in this document)** means any buildings, structures, equipment, installations, or substance emitting stationary activities which belong to the same industrial group, which are located on one or more contiguous properties, which are under the control of the same person (or persons under common control), and from which an accidental release may occur. USEPA's "General Guidance for Risk Management Programs"[4]discusses topics such as simple sources, multiple operations owned by a single company, other sources, joint ventures, and multiple locations. The information in Exhibit 1-1 is from this federal guidance document.

- **Process** means any activity involving a regulated substance including any use, storage, manufacturing, handling, or on-site movement of such substances, or combination of these activities. A process can be as simple as a single storage vessel or a group of drums or cylinders in one location or as complicated as a system of interconnected reactor vessels, distillation columns, receivers, pumps, piping, and storage vessels.[5]

  - If a regulated substance is stored in a single vessel in quantities above the threshold quantity, the process is covered.
  - If interconnected vessels hold more than a threshold quantity of a regulated substance, the process is covered. The connections need not be permanent. If two or more vessels are connected occasionally, they are considered a single process for the purposes of determining whether a threshold quantity is present.
  - If a facility has multiple unconnected vessels, containing the same substance, "co-location" must be determined.[6]

  USEPA's General Guidance Document contains a discussion of single vessels, interconnected vessels, co-location, processes with multiple chemicals, and differences with OSHA requirements. Exhibit 1-2 is a schematic representation of these concepts.

- **Covered process** means a process that has a regulated substance present in more than a threshold quantity.

- **Regulated substance (referred to as "chemical" in this document)**, listed in Table 1, 2, or 3 in the CalARP Program regulations and summarized in Appendix A

4 USEPA's "General Guidance for Risk Management Programs"
5 Ibid
6 Ibid

- **Retail facility** refers to facilities selling flammable fuels. There is an exclusion for a facility at which more than one-half of the income is obtained from direct sales of flammable fuels to end users or at which more than one-half of the fuel sold, by volume, is sold through a cylinder exchange program.

- **Risk Management Plan (RMP)** is a document that must be a true and accurate reflection of a facility's compliance with the elements of the CalARP Program. It summarizes the facility's accidental release prevention program implementation activities. Each facility with one or more covered processes, must prepare and submit a single RMP that includes all covered processes. (Note: If an RMP is required by the FedARP Program, the "single" RMP may need to be crafted to meet AA documentation requirements.)

- **Threshold quantity** means the compliance quantity specified for a regulated substance (chemical) pursuant to the CalARP Program regulations; see Appendix A for a summary.

Applicability (Section 2735.4)

The requirements of the CalARP Program apply to a facility with more than a threshold quantity of a listed chemical in a process. A facility with less than a threshold quantity of a listed chemical, in a process, is not covered by the CalARP Program. See Exhibit 1-3 for a schematic representation of Program applicability.

Program 1, 2, and 3 Eligibility requirements

The CalARP Program defines three Program Levels with increasing requirements depending upon the complexity, accident history, and potential offsite impact of a release.

- **Program Level 1** covers processes that pose comparatively low risks to the public. (Note: Program Level 1 eligibility is not a one-time exercise. Facilities must certify in the RMP, and provide current worst-case scenario release data, indicating no offsite impacts. The Program Level 1 compliance and accident history provide an opportunity to demonstrate to the community the facility's on going excellence in accident prevention.)

- **Program Level 3** typically covers the most complex chemical processes. These processes are in industrial sectors, with substantial accident histories, have significant potential offsite consequences, or are subject to the OSHA Process Safety Management (PSM) standard. Program Level 3 processes are mainly at medium to large manufacturing facilities, petroleum refineries, facilities with large refrigeration storage systems, utilities, and complex publicly owned drinking water or wastewater treatment plants.

- **Program Level 2** covers processes that do not meet the Program Level 1 requirements, and typically have less complex processes than Program Level

3 requirements. Retail facilities, small to medium manufacturing facilities, and some publicly owned drinking water or wastewater treatment plants may be examples of Program Level 2 processes.

See Exhibit 1-4 for a schematic representation **of how to assign** processes to the three different program levels.

For Table 3 substances (not exceeding Table 1 thresholds), the AA can reassign the program level based on the nature, quantity, and use of the chemical involved pursuant to Section 25534 of the HSC, unless the facility meets Program Level 1 eligibility requirements.

For Table 1 and Table 2 facilities, the AA may not change the Program Level. If the facility chooses an incorrect Program Level, there may be a need for a change to a different Program Level.

If at any time a covered process no longer meets the eligibility criteria of its Program Level (eg. a change in the process or potential off-site impact), the facility shall comply with the requirements of the new Program Level that applies to the process and shall update the RMP.

General Requirements (Section 2735.5)

The facility shall closely coordinate with the AA to implement the requirements of the CalARP Program. The AA shall determine the appropriate level of documentation required for an RMP. An example coordination letter can be found in Appendix G.

Program Evaluation Notes

Evaluation Questions:
How does the owner or operator coordinate and consult with the AA to implement the CalARP Program requirements?

Has each owner or operator consulted with the AA to determine the level of documentation required in the RMP?

Demonstration of Compliance:
AAs may demonstrate compliance with these requirements by providing copies of letters to the owner or operator that document communication and RMP expectations. Telephone logs, e-mails and other documents may also demonstrate coordination.

The RMP shall include all requirements described in Section 2745.3 through Section 2745.9 of the CalARP Program regulations (also see Chapter 3 of this document) and shall include a registration that reflects all covered processes. An executive summary (Section 2745.3) is required for **all** RMP's.

Model RMP's may be used by the facility if accepted for use by AAs, in consultation with OES. Model RMP's for a process that has in excess of a threshold quantity of a regulated substance listed in Table 1 or 2 of Section 2770.5 must also be acceptable to USEPA. OES may limit the use, application, or scope of these models.

The following Table[7] is a comparison of the three different Program level requirements:

COMPARISON OF PROGRAM REQUIREMENTS		
Program 1	**Program 2**	**Program 3**
Executive Summary	Executive Summary	Executive Summary
Worst-case release analysis	Worst-case release analysis	Worst-case release analysis
	Alternative release analysis	Alternative release analysis
5-year accident history	5-year accident history	5-year accident history
	Document management system	Document management system
Prevention Program		
Certify no additional prevention steps needed	Safety Information	Process Safety Information
	Hazard Review	Process Hazard Analysis
	Operating Procedures	Operating Procedures
	Training	Training
	Maintenance	Mechanical Integrity
	Incident Investigation	Incident Investigation
	Compliance Audit	Compliance Audit
		Management of Change
		Pre-Startup Review
		Contractors
		Employee Participation
		Hot Work Permits
Emergency Response Program		
Coordinate with local emergency responders	Develop a plan and program (if applicable) and coordinate with local emergency responders	Develop a plan and program (if applicable) and coordinate with local emergency responders
Submit One Risk Management Plan for All Covered Processes		

7 USEPA's General Guidance for Risk Management Programs, May 2000, Exhibit 2-4

Program Evaluation Notes

Evaluation Question:
Has the AA coordinated with each owner or operator regarding acceptable use of model RMP's?

Note: model RMP's can be found at USEPA's website at http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/index.html and also at various industry/trade group sites.

Demonstration of Compliance:
This is only required if an owner or operator wants to use a model RMP. AAs may demonstrate compliance with these requirements by providing telephone logs or copies of letters or e-mails between the owner or operator and the AA that document communication and RMP expectations.

CalARP Program Management System (Section 2735.6)

A management system, to oversee the implementation of the RMP, is required for Program 2 or Program 3 processes only. The facility assigns a qualified person or position with the overall responsibility for the development, implementation, and integration of the RMP. If responsibilities are shared among individuals, the names or positions of these people shall be documented and the lines of authority defined by an organization chart or similar document.

AA Perspective

What to look for in a CalARP Program Management System:

Look for how the CalARP Program elements are implemented, the personnel who have been designated as responsible for implementation of the elements, and a description of any records which can be used to verify compliance with this section. Is it clear from company documentation who is responsible for which portions of the program? Is there a conflict of interest in the management program (e.g., is the person responsible for the program also responsible for minimizing costs?)?

A small facility may just have one person, and a large facility may have many people or positions involved with CalARP Program responsibilities. The plant manager may delegate responsibility for the CalARP Program to another individual, but make sure that the plant manager is involved at least in the more critical aspects of the prevention program (e.g., Employee Participation Plan and Management of Change approvals, annually certifying Standard Operating Procedures, reviewing Compliance Audits, etc.). After all, if just one person is handling all CalARP Program responsibilities without any plant management oversight, who else will be held accountable?

The purpose of the CalARP Program Management System requirement is to:

Ensure effective communication about process changes between divisions within the regulated facility;

Ensure that process changes are efficient, effective and correctly implemented;

Clarify the roles and responsibilities related to process safety issues at the facility;

Avoid problems or conflicts among the various people responsible for implementing elements of the CalARP Program;

Avoid confusion and allow those responsible for implementation to work together as a team; and

Ensure that the program elements are integrated into an ongoing approach to identifying hazards and managing risks (such as the employer's written Injury and Illness Prevention Program).

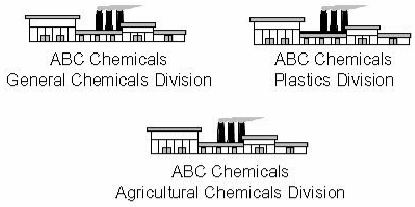
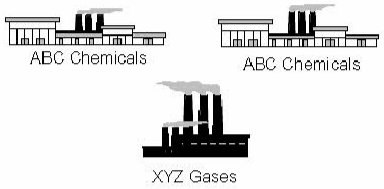
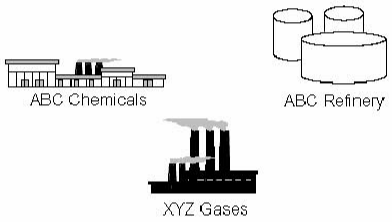
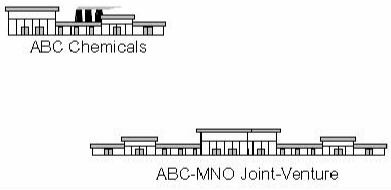
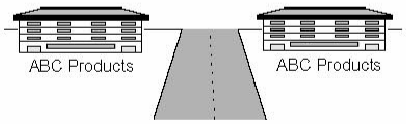
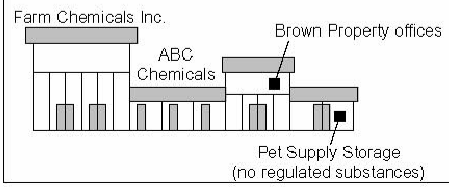
One very effective management system for CalARP Program compliance integration is through conformance with the International Standards Organization (ISO) 9000 and/or 14000 series standards; these standards are not regulatory, but rather consistency standards. You may find ISO standards used by businesses that primarily have multi-national customers for their products. All aspects of the facility's operations, from the manufacturing processes to regulatory compliance are typically well documented and closely reviewed, even more frequently than the CalARP Program regulations would otherwise require, in order for a business to achieve the ISO Certification through qualified third party auditing. ISO certified facilities have to "say what they do – do what they say – and prove it" – over and over again.

Emergency Information Access (Section 2735.7)

The AA shall provide immediate access to all components of the CalARP Program information to any state or local emergency response agency upon request. If any of the components are designated as "trade secret" as defined in Section 6254.7(d) of the Government Code and Section 1060 of the Evidence Code, the requestor shall be notified that the information released shall be used only in connection with the official duties of the agency or agencies and shall not otherwise be released.

Exhibit 1-1[8]

Stationary Sources

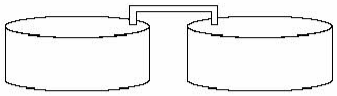
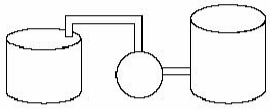
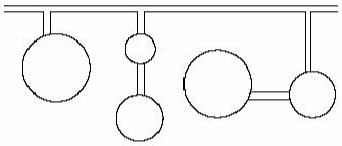
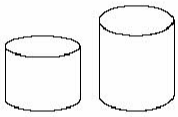
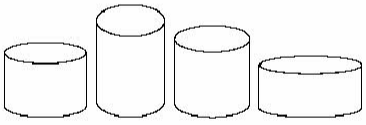
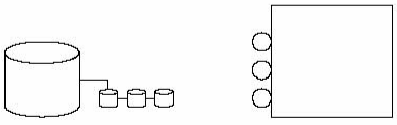
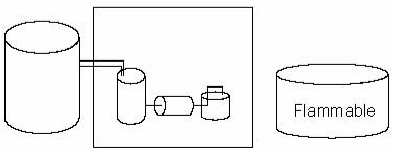
Schematic Representation	Description	Interpretation
	*same* owner *same* industrial group	1 stationary source 1 RMP
	two owners	2 stationary sources 2 RMPs 1 ABC 1 XYZ
	two owners three industrial groups	3 stationary sources 1 ABC Chemicals 1 ABC Refinery 1 XYZ Gases
	two owners	2 stationary sources 2 RMPs
	*same* owner *same* industrial group contiguous property	1 stationary source 1 RMP
	two owners	2 stationary sources 2 RMPs 1 ABC Chemicals 1 Farm Chemicals

Note: The box in the third row, third column should say "3 RMPs."

8 USEPA's General Guidance for Risk Management Programs, Exhibit 1-3, May 2000

Exhibit 1-2[9]

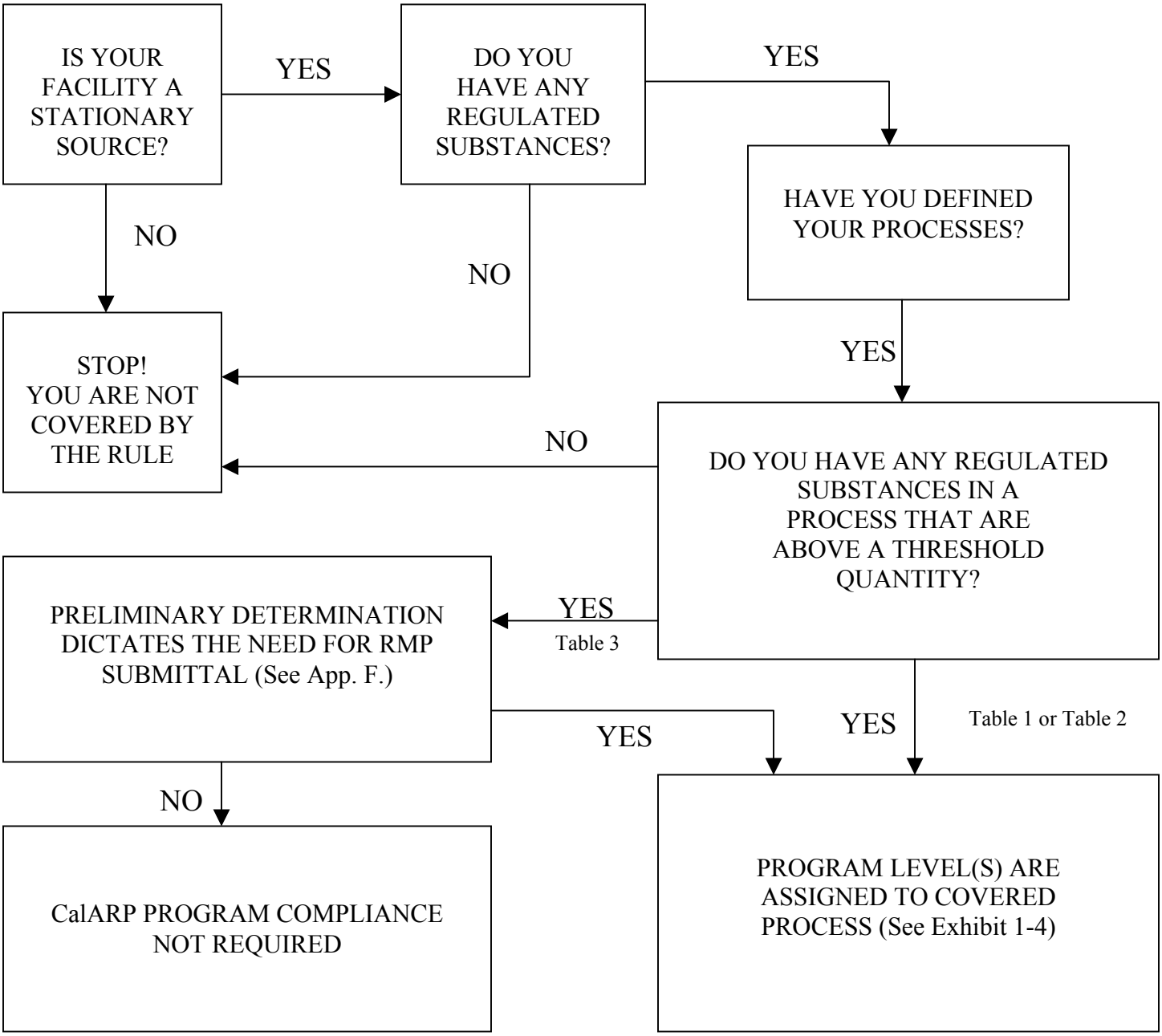
Process Representation

Schematic Representation	Description	Interpretation
	1 vessel 1 regulated substance above TQ	1 process
	2 or more connected vessels *same* regulated substance above TQ	1 process
	2 or more connected vessels *different* regulated substances each above TQ	1 process
	pipeline feeding multiple vessels total above TQ	1 process
	2 or more vessels co-located *same* substance total above TQ	1 process
	2 or more vessels co-located *different* substances each above TQ	1 process
	2 vessels, located so they won't be involved in a single release *same* or *different* substances each above TQ	2 processes
	2 locations with regulated substances each above TQ	1 or 2 processes depending on distance
	1 series of interconnected vessels *same* or *different* substances above TQs *plus* a co-located storage vessel containing flammables	1 process

9 USEPA's General Guidance for Risk Management Programs, Exhibit 1-2, May 2000

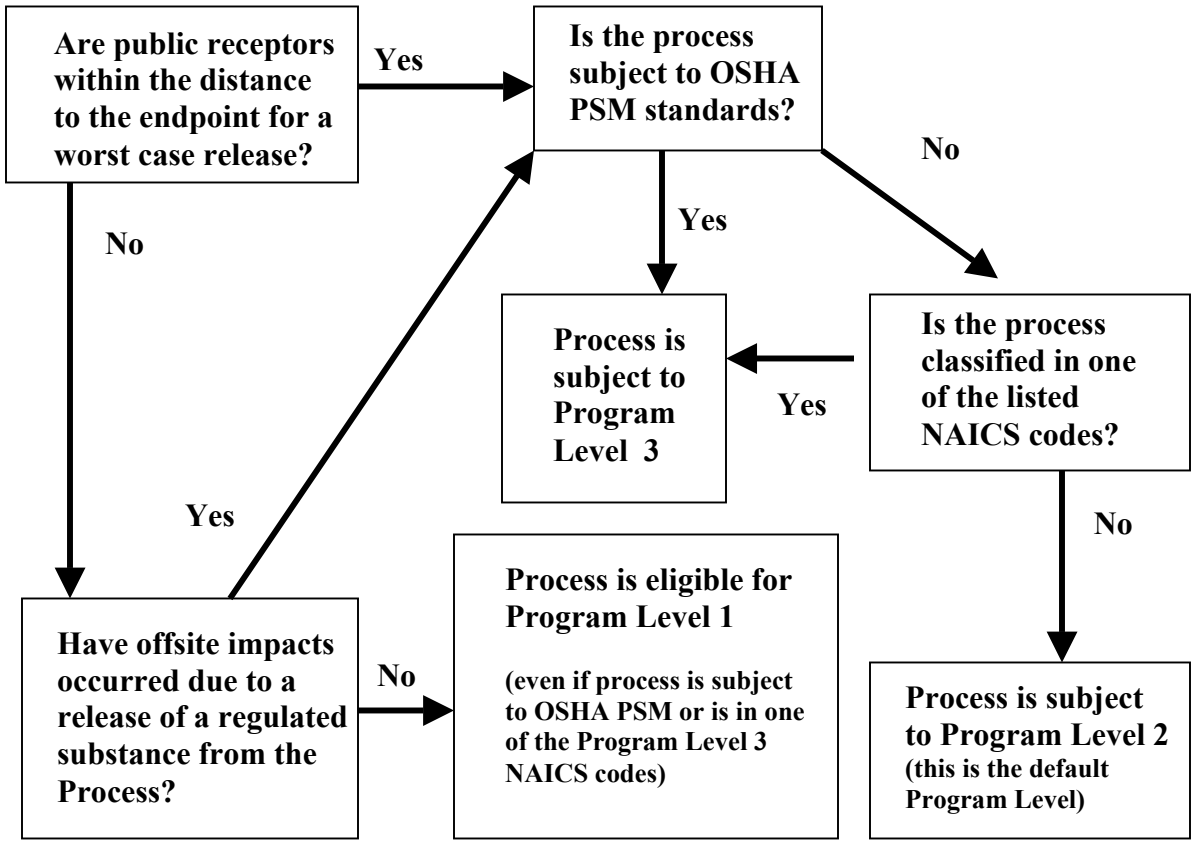
Exhibit 1-3[10]

Program Applicability



10 Modified from USEPA's General Guidance for Risk Management Programs, Exhibit 1-1, May 2000

Exhibit 1-4[11]
Program Level Assignment



Assigning Program Levels

HSC Section 25534(b) and (c) discusses the ability of an AA to assign or reassign the Program Level for a Table 3 facility, based on the significant likelihood of accident risk. The AA can make the following Program Level assignments, based on accident risk:

- Program Level 2 to Program Level 3
- Program Level 3 to Program Level 2
- Program Level 2 to Program Level 1

If a facility meets the Program Level 1 requirements, the AA cannot reassign the facility to a more stringent Program Level. In addition, the AA cannot reassign Program Levels for Table 1 or Table 2 facilities. If at any time a covered process no longer meets the eligibility criteria of its Program Level, the facility shall comply with the requirements of the new Program Level and update the RMP (see Chapter 3, RMP Updates). Chapter 3, "RMP Review Process," discusses the ability of an AA to request additional detail for the Program Level elements already required.[12]

See Appendix F for additional information on making risk determinations for Table 3 facilities.

11 Modified from USEPA's General Guidance for Risk Management Programs, Exhibit 2-1, May 2000
12 HSC 25534.05(d)

Chapter 2. Registration

Registration (Section 2740.1)

AAs have the option of requesting a registration from facilities prior to the RMP submission. "Pre-registration" must include a certification of accuracy.

Table 1 or Table 2 facilities must submit the completed registration with the RMP to USEPA, and provide a copy to the AA. The USEPA approved format is using the federal RMP*Submit (see Appendix I for web downloading information).

Table 3 facilities (assuming Table 1 thresholds are not exceeded, if applicable) must submit the completed registration with the RMP to the AA. Even if a "pre-registration" was requested, the facility must submit the registration again with the RMP.

Program Evaluation Notes

Evaluation Questions:
Did all RMP's submitted to the AA include a completed registration form?

If the registration was submitted prior to an RMP submittal, did the registration include a certification of accuracy?

Demonstration of Compliance: (2740.1(d))
Did the registration include the following data:

(1) Stationary source name, street, city, county, state, zip code, latitude, and longitude;
(2) The stationary source's Dun and Bradstreet number;
(3) Name and Dun and Bradstreet number of the corporate parent company;
(4) The name, telephone number, and mailing address of the owner or operator;
(5) The name and title of the person or position with overall responsibility for RMP elements and implementation;
(6) The name, title, telephone number, and 24-hour telephone number of the emergency contact;
(7) For each covered process, the name and CAS number of each regulated substance held above the threshold quantity in the process, the maximum quantity of each regulated substance or mixture in the process (in pounds) to two significant digits, the SIC code (NAICS), and the Program level of the process;
(8) The stationary source USEPA identifier;
(9) The number of full-time employees at the stationary source;
(10) Whether the stationary source is subject to Section 5189 of Title 8 of CCR;

(11) Whether the stationary source is subject to Part 355 of Title 40 of CFR;
(12) Whether the stationary source is subject to an operating permit under Title V of CAA; and
(13) The date of the last safety inspection of the stationary source by a federal, state, or local government agency and the identity of the inspecting entity?

In addition to the above-mentioned registration requirements, the USEPA requires additional information. Consult USEPA's website (see Appendix I) for specific RMP*Submit registration information.

Chapter 3. RMP Components and Submission Requirements

Submission (Section 2745.1)

Each facility submits a single RMP covering all applicable process(es) to the AA. Table 1 or Table 2 facilities are subject to Federal ARP program requirements and must also submit a copy of the RMP to USEPA, using RMP*Submit (see Appendix I). ***Note: any state-specific information or AA-required supplemental information in the RMP, which is not required by USEPA, such as external events analysis, shall not be submitted to USEPA.***

Table 3 facilities (assuming Table 1 thresholds are not exceeded, if applicable), the AA must first make a preliminary determination whether the facility must comply with the CalARP Program and submit an RMP. Once the AA has made this determination, the AA shall, in consultation with the facility owner or operator, establish an RMP submittal date. The AA does not have the same preliminary determination option with facilities with more than a threshold quantity of a Table 1 or Table 2 chemical. See Appendix F for a discussion of AA risk determination and issues of CalARP Program surcharge collection from "RMP exempt" facilities.

RMP Submission Requirements Table

Over Table 1 or 2 TQ	Over Table 3 TQ	Type of Facility	Submission to:	Submission Timeframe
Yes	NA	Existing	USEPA and AA	RMP was due by 6/21/99. If RMP was not submitted, the facility is out of compliance.
Yes	NA	New or Modified	USEPA and AA	Submit before the threshold quantity of the chemical is in the process.
No	Yes	Existing	AA only	12-36 months after the AA determines an RMP is required.
No	Yes	New or Modified	AA only	Submit before the threshold quantity of the chemical is in the process.

Key:
TQ : Threshold quantity
NA: Above the federal threshold, therefore not an issue for purposes of compliance.
Modified facility: a facility which has undergone an addition or change which qualifies as a "major change" as defined in the CalARP Program regulations.
Existing facility:

- Table 1 or Table 2: a facility which was in operation on or before June 21,1999. Any facility that began operation after June 21, 1999, is considered a new or modified facility.
- Table 3 (not exceeding Table 1 thresholds, if applicable): Unlike the bullet above, the Federal June 21, 1999 time-frame did not necessarily apply. A facility has 12-36 months to submit their RMP, from the time the AA determines an RMP is required.

Note: If OES or USEPA adds a new chemical to the Program, the facility will have 3 years to submit their RMP.

Program Evaluation Notes

Evaluation Questions:
Has the AA made risk determinations for all stationary sources that only handle regulated substances above the threshold quantity listed on Table 3, but below the threshold quantity on Table 1 (see Appendix F of this document)?

Did the owner or operator submit their RMP's (via RMP*Submit) to USEPA by the required timeframes, if applicable?

How does the AA ensure they are receiving copies of all "RMP*Submit" information which was submitted to USEPA?

Did the AA consult with each owner or operator to determine the RMP submission date for existing stationary sources?

If yes, did the AA allow the owner or operator 12 – 36 months to prepare and submit an RMP for the covered process(s)? (Verify correspondence.) (Note: this pertains to Table 3 only regulated substances, which are not above Table 1 TQ's.)

If a determination is made pursuant to section 2735.4(a)(2) that a new or modified stationary source must comply with this chapter; has the owner or operator of the new or modified stationary source(s) submitted their RMP, or is aware of the requirement to submit, to the AA prior to the date the regulated substance is first present in a process above the TQ? (Note: this pertains to Table 3 only regulated substances, which are not above Table 1 TQs.)

For Table 3 chemicals that are pesticides (as determined in the Food and Agricultural Code Section 12753), the AA needs to determine if an RMP is required. If there is an existing risk management plan, the AA must first consult with the County Agricultural Commissioner or the Department of Pesticide Regulation to determine whether the existing plan is adequate. This activity is not intended to limit the AA's authority in any way. Note: this risk determination and consultation activity does not apply if a Table 1 threshold is exceeded.

Program Evaluation Notes

Evaluation Question: (2745.1(g))
Has the AA consulted with the Agricultural Commissioner on regulated substances, which are pesticides used on farms or nurseries to evaluate if the existing RMP is adequate?

The RMP shall not include classified information, as defined in the CalARP Program regulations; such information is protected from public disclosure. However, classified data or information excluded from the main body of the RMP may be made available in a classified annex to the RMP for review by federal and state representatives who have received the appropriate security clearances required for the classified data or information being reviewed.

OES may ask the AA for copies of the RMP and the federal registration.

AA Perspective

What to look for in Risk Management Plans:

AAs should recommend that facilities create an RMP document representative of their program, and should not accept a simple list of data elements. AAs should further emphasize that the facility itself should write the RMP as much as possible, with consultants if necessary, providing instruction on implementation and training.

RMP Review Process (Section 2745.2)

Nothing in this section shall preclude the authority of an AA to inspect or audit a facility at any time. Availability of information to the public is discussed in Chapter 9.

The RMP review process shall include:

Type of Review	Responsibility	Time-Frame (Calendar Days)	Accomplishments
Consult and Review	Facility for certification; AA for determination of completeness	[Δ]None	The facility shall work closely with the AA to determine that the RMP contains an appropriate level of detail. The AA can request additional detail for the program level elements required, as well as the documentation of the external events analysis (HSC 25534.05(d)).
Initial Public Notice	AA	[Δ]None	[*]Publish a notice in a local newspaper of general circulation that the RMP has been submitted and the AA has initiated the process for government and public review. Keep a copy of this notice in the facility file.
RMP Review	AA	[Δ]None	Review the RMP to determine if all required elements are contained in the RMP. The AA may authorize the air pollution control or air quality management district to conduct a technical review of the RMP.

Deficiency Notice	AA	[Δ]None	Provide a written notice to the facility of any deficiencies discovered in the RMP during the review process, if any.
Deficiency Correction	Facility	60 (or 90) from notification	Resubmit corrected RMP to AA. The facility may request, in writing, a one-time 30-day extension to correct deficiencies.
Notification of Formal Public Review	AA	15 days after RMP is complete	[*]Publish a notice in a local newspaper of general circulation describing the RMP and stating a location where it may be reviewed. Notify those who have specifically requested notification.
Formal Public Review	Public	45 days	The AA shall review all public comments.
Evaluation Review	AA	[◈]36 mos for Prog. 1 or Prog. 2 [◈]24 mos for Prog. 3	The AA shall consider public comments, standard application of engineering and scientific principles, site-specific characteristics, technical accuracy, offsite consequences, etc. Inspections and onsite document review of records and data that may not be in the possession of the AA, may also be evaluated.

Key:
[Δ]None specifically for this type of review, however it must be completed within the RMP submittal time-frame.
[*]The level of detail for the newspaper notice is not specified in the regulations. Classified information need not be included. Trade secrets are protected pursuant to Section 25538 of the HSC. For further clarification on public access issues, see Chapter 9 and Appendix E.
[◈]These time frames start after the Deficiency Notice time frames.

Program Evaluation Notes

Evaluation Question: (2745.2(a)(1))
Has the AA worked closely with the owner or operator to determine that the RMP contains an appropriate level of detail?

Demonstration of Compliance:
Telephone logs, copies of letters, e-mails or other correspondence.

Evaluation Question: (2745.2(a)(2))
Did the AA publish an initial public notice in a local newspaper of general circulation stating that an RMP has been submitted and the AA has initiated the process for government and public review?

Demonstration of Compliance:
Include a copy of the public notice in the facility file.

Evaluation Question: (2745.2(a)(3))
Did the AA review each RMP to determine if all the elements pursuant to Sections 2745.3 through 2745.9 are contained in the document?

Demonstration of Compliance:
Include a copy of the checklist in the facility file.

Evaluation question:
What method does the AA use to notify the owner or operator of noted deficiencies?

Note: Has the AA involved the local air quality management district/air pollution control district with the technical review of an RMP? The AA may authorize the air pollution control district (APCD) or air quality management district (AQMD) to conduct a technical review of the RMP.

Demonstration of Compliance:
Include copies of any notices of violation, letters, or e-mails in the facility file.

Evaluation Question: (2745.2(a)(3)(A))
Does the AA allow 60 calendar days to correct deficiencies? (Note: An owner or operator may request, in writing, a one-time 30-calendar day extension.)

Demonstration of Compliance:
What does the AA do if a corrected RMP is not submitted within the allowable time period? (Note: Penalties are specified in HSC 25540 and 25541.) Keep copies of telephone logs, letters or e-mails in the facility file.

Evaluation Question: (2745.2(a)(3)(B))
If no deficiencies were identified, has the AA accepted the RMP as complete and initiated the formal public review?

Demonstration of Compliance:
Keep copies of the notification in the facility file.

Evaluation Question: (2745.2(a)(4))
Formal Public Review: Did the AA, within 15 calendar days of determining an RMP is complete, make the RMP available for formal public review and comment by publishing an announcement in a local newspaper of general circulation?

Did the AA allow 45 days for public review and comment of the RMP?

Demonstration of Compliance:
Copies of relevant notices in the facility file.

Evaluation Question: (2745.2(a)(6)(A))
Did the AA complete the evaluation review within 36 months for RMP's that included only program level 1 or program level 2 processes?

Evaluation Question: (2745.2(a)(6)(B))
Did the AA complete the evaluation review within 24 months for any RMP's that included program level 3 processes?

Evaluation Question: (2745.2(a)(8))
What process does the AA use to process requests for public information?

RMP Executive Summary Component (Section 2745.3)

Refer to the CalARP Program regulations, Section 2745.3 for a list of the 7 required elements that must be addressed in the Executive Summary. Note: a summary is a BRIEF description of the element, including the release scenarios required in (c) of this Section. It is critical that the Executive Summary not contain information protected by the federal Patriot Acts or other federal or state laws that protect information that may be important to terrorists.

Program Evaluation Notes

Evaluation Question:
Do all RMP's contain an executive summary?

Demonstration of Compliance:
If so, does the executive summary contain the elements required by Section 2745.3(a) – (g)?

AA Perspective

What to look for in Section 2745.3(g) "Planned Changes to Improve Safety:"

This section of the executive summary should list or review the findings of the hazard review or process hazard analysis, including those that need correction. This part of the RMP should best be used to satisfy the requirements of either 2755.2(e) for Program 2 or 2760.2(e) for Program 3, regarding what was identified as needing improvement and setting a schedule for getting it done. Do not accept an RMP as being complete unless this section accurately documents the results of the hazard review or process hazard analysis and ensures that problems identified are going to be resolved in a timely manner. Now, the RMP becomes an enforceable document to fix the things that need to be fixed at that facility. If the facility insists that no changes are needed, it is time to go back and look at their hazard analysis very closely. Nothing is so good that it cannot be improved. This is a critical element of the entire CalARP Program.

RMP Offsite Consequence Analysis and Five-Year Accident History Components (Section 2745.4 and Section 2745.5)

The owner or operator shall submit the following information in the RMP:

- One worst-case release scenario for each Program 1 process; and,

- For Program 2 or Program 3 processes:
  (a) One worst-case release scenario to represent all regulated toxic substances held above the threshold quantity (Note: this must be for the worst of the worst cases if there is more than one chemical evaluated);
  (b) One worst-case release scenario to represent all regulated flammable substances held above the threshold quantity;
  (c) If the facility has additional processes that could affect different public receptors than in (a) and (b) above, additional worst-case scenarios are required;
    - One alternative release scenario for **each** regulated toxic substance held above the threshold quantity; and
    - One alternative release scenario to represent **all** regulated flammable substances held above the threshold quantity.

- The 13 elements identified in Section 2745.4(b) of the CalARP Program regulations for each scenario. (Note: USEPA's RMP*Submit requires additional elements; see Appendix I for RMP*Submit website information).

- Five-year accident history, including the information required by Section 2750.9(b) of the CalARP Program regulations, on each accident.

RMP Program 2 Prevention Program Component (Section 2745.6)

Consult Section 2745.6 (b) through (l) of the CalARP Program regulations for the Program 2 Prevention Program requirements. Section 2745.6(l) was added to the CalARP Program pursuant to HSC Chapter 6.95, Article 2, and is a state-specific requirement.

RMP Program 3 Prevention Program Component (Section 2745.7)

Consult Section 2745.7 (b) through (q) of the CalARP Program regulations for the Program 3 Prevention Program requirements. If the same information applies to more than one covered process, the owner or operator may provide the information only once, but shall indicate to which processes the information applies. Section 2745.7(q) was added to the CalARP Program pursuant to HSC Chapter 6.95, Article 2, and is a state-specific requirement.

Program Evaluation Notes

Evaluation Questions:
Has the AA ensured that all Program Level 2 or 3 RMP's contain an external event analysis in the Process Hazard Analysis or Hazard Review sections?

If the magnitude or scope of the external events were unknown, did the owner or operator work closely with the AA to determine what information was required?

RMP Emergency Response Program Component (Section 2745.8)

Program levels 1, 2, and 3 all require an emergency response program component. Refer to Section 2745.8 of the CalARP Program regulations for the required elements.

RMP Certification (Section 2745.9)

RMP certification is required for Program levels 1, 2, and 3.

Program 1: the certification statement provided in Section 2735.5(d)(4) of the CalARP Program regulations.

All other processes: a single certification that, to the best of the signer's knowledge, information, and belief formed after reasonable inquiry, the information submitted is true, accurate, and complete.

RMP Updates (Section 2745.10)

A Table 1 or 2 facility shall review and update the RMP and submit it in a method and format to a central point specified by USEPA and to the AA prior to June 21, 1999. The facility shall revise and update the RMP submitted under Section 2745.1 as follows:

RMP Updates

Time-Frame…	Update Trigger
Within 5 years	After initial submission
Within 5 years	Of most recent update (i.e. every 5 years)
Within 3 years	After a chemical is first listed in regulation
Same day	As a new chemical above the TQ is added to an existing process
Same day	As a chemical above the TQ is present in a new process
Within 6 months	Of a change that requires PHA or hazard review
Within 6 months	Of a change that requires a revised OCA
Within 6 months	Of a change that alters the Program Level

Key:
OCA= Offsite Consequence Analysis
PHA= Process Hazard Analysis
TQ = Threshold quantity

Registration Updates (Section 2745.10(c)(d)(f))

Time-Frame…	Update Trigger	Update Submitted to:
Within 6 months	Of determining facility is no longer subject to CalARP Program	AA and to USEPA for Table 1 or Table 2 facilities
Within 30 days	Of a change in owner/operator	AA

Revised RMPs are subject to the same public review process as a "new" RMP.

Covered Process Modification (Section 2745.11)

In accordance with HSC Chapter 6.95, Article 2, Section 25543.2, if a facility intends to modify a process and this modification results in a significant increase (compared to the original RMP) in either:

- the amount of chemical handled in the process; or
- the risk of handling a chemical,

then the facility shall:

- Notify the AA in writing of the facility's intent to modify the stationary source at least five calendar days before implementing any modifications, when possible. Where pre-notification is not reasonably possible, the owner or operator shall provide written notice to the AA no later than 48 hours following the modification.

- Consult with the AA to determine whether the RMP should be reviewed and revised.

- Establish procedures to manage the proposed modification, which shall be substantially similar to the procedures specified in Sections 2760.6 and 2760.7 of the CalARP Program regulations,

- Notify the AA that the procedures above, have been established.

- Revise all appropriate documents expeditiously, but no later than 60 days from the date of the facility modification.

Certificate of Occupancy (Section 2745.12)

New or modified stationary sources shall comply with Section 65850.2(b) of the Government Code prior to the issuance of a certificate of occupancy by a city or county.

This Government Code section must be reviewed by the AA to ensure adequate coordination at the local agency level.

Chapter 4. Hazard Assessment

Hazard Assessment Applicability (Section 2750.1)

A Program 1 facility shall prepare a worst-case release scenario analysis, and complete the five-year accident history.

A Program 2 or Program 3 facility shall comply with all sections in this chapter for these processes.

According to Section 2750.3 (worst-case scenario) and 2750.4 (alternative release scenario), the facility may use either the methodology provided in USEPA's RMP Offsite Consequence Analysis Guidance document, "RMP*Comp," or any commercially or publicly available air dispersion modeling techniques, provided the techniques account for the specified modeling conditions and are recognized by industry as applicable as part of current practices. Proprietary models that account for the modeling conditions may be used, provided the facility allows the AA access to the model, and, upon request, describes to local emergency planners, the model's features and its differences from publicly available models. Regardless of the model used, the specified worst-case and alternative case release parameters must be used.

AA Perspective

What to look for in Hazard Assessment Modeling:

Regardless of the model used, the facility should be prepared to compare the release distance results to that of RMP*Comp.

Offsite Consequence Analysis (OCA) Parameters (Section 2750.2)

Quick Reference for OCA Parameters

Parameter	Worst Case Scenario	Alternative Release* Scenario
Endpoint for Toxics	Use the endpoints in Appendix B.	
Endpoint for Flammables	Use the following endpoints, depending on the scenario: • Explosion: Overpressure of 1 psi for vapor cloud explosions. For the explosion, use a yield factor of 10% of the available energy released (if based upon TNT-equivalent methods). • Radiant heat/exposure time: 5 kw/m^2 for 40 seconds. • Lower flammability limit (LFL): LFL as provided in NFPA or other generally recognized sources.	
Wind Speed/atmospheric stability class	1.5 m/s and F stability (1)	Typical meteorological conditions
Ambient temperature (for toxic substances)	Highest daily max. in the last 3 years, or 25°C if using USEPA's RMP OCA Guidance	Typical meteorological conditions
Humidity (for toxic substances)	Average site humidity, or 50% if using USEPA's RMP OCA Guidance	Typical meteorological conditions
Height of release (for toxic substances)	Ground level (0 feet)	Determined by release scenario
Surface roughness	Urban or rural (2)	
Dense or neutrally buoyant gases	**As appropriate for gas density	
Temperature of released substance (for liquids other than gases liquefied by refrigeration)	Highest daily max. in the last 3 years, or process temperature; whichever is higher	Process or ambient temperature as appropriate
Mitigation (3)	Passive (4) only	Active (5) or passive as appropriate

*The five year accident history and any identified failure scenarios should be considered in selecting alternative release scenarios.

(1) If it can be demonstrated that the local meteorological data shows a higher minimum wind speed or less stable atmosphere at all times during the previous three years those minimums may be used.

(2) Urban = Many obstacles in immediate area, including trees or buildings.
Rural = flat and unobstructed terrain.

(3) Mitigation = specific activities, technologies, or equipment designed or deployed to capture or control substances upon loss of containment.

(4) Passive Mitigation = equipment, devices, or technology that function without human, mechanical or other energy input.
(5) Active Mitigation = equipment, devices, or technology that need human, mechanical or other energy input to function.
**Note: Be cautious of gases that may be dense and act as neutrally buoyant, and releases of aerosols that may act dense at first and later act buoyant.

Passive mitigation systems may be considered for the analysis of worst case provided that the mitigation system:

- is capable of withstanding the release event identified that may trigger the scenario, and;
- the system would still function as intended.

Active and passive mitigation systems may be considered for the analysis for alternative release scenarios provided they:

- are capable of withstanding the event that triggered the release, and;
- would still function as intended.

Mitigation systems should have regularly scheduled operational evaluations and reliability analyses to ensure that they will remain operational.

AA Perspective

What to look for in Passive Mitigation:

Watch for toxic gas release rates that exceed 2000 cubic feet per minute (CFM). Excessive CFM releases would likely cause too much over pressurization for the passive mitigation to withstand.

Worst-Case Release Scenario Analysis (Section 2750.3)

The facility shall analyze and report in the RMP the following worst-case release scenarios which give the greatest distance in any direction to an endpoint as defined in the table above (taken from Section 2750.2(a)).

Quick Reference for Worst-Case Release Scenarios (WCRS)

Process Program Level	Number of WCRS	Type of Chemical	Details
1	1 per process	Toxic or Flammable	Use the parameters in Chapter 4
2 & 3	1 per process	Toxic	Use the parameters in Chapter 4
2 & 3	1 per process	Flammable	Use the parameters in Chapter 4
2 & 3	1 per additional process	Toxic or Flammable	Additional scenarios are necessary if modeling shows that other covered processes may affect different public receptors than used in the initial scenarios (i.e this usually comes into play when there are multiple processes and potential receptors located at different geographic locations around the facility).

The worst-case release quantity, taking into account administrative controls, shall be the greater of the following:

- For vessels: the greatest amount held in a single vessel; or
- For pipes: the greatest amount in a pipe.
    - For flammables: assume that the quantity of the substance, as determined above, vaporizes resulting in a vapor cloud explosion.

Regardless of the worst-case release quantity, the facility must, when selecting a worst-case release scenario for either toxic or flammable chemicals, consider the following factors if these conditions would result in a greater distance to an endpoint than a scenario based only on the release quantity:

- The increased impact due to higher process temperature or pressure; and,
- Proximity to the boundary of the stationary source.

Facilities with more than one process shall evaluate the worst of the worst-case scenarios to determine where they fit within the program.

Quick Reference Worst Case Release Scenario Requirements

Type of Chemical	Assume Time for Total Release	Release Rate (Pounds/minute)
Toxic gases at ambient temperature (handled as a gas or as a liquid under pressure)	Quantity in the vessel or pipe is released as a gas over 10 minutes.	If no passive mitigation systems are in place, total quantity released divided by 10.
		If passive mitigation systems are in place, total quantity released divided by 10, then multiplied by 0.55 (mitigation factor).[13]
Toxic gases at ambient pressure (handled as refrigerated liquids)	If no passive mitigation or if the contained pool would have a depth of 1 cm or less: released as a gas in 10 minutes.	Total quantity released divided by 10.
	If contained by passive mitigation in a pool with a depth greater than 1 cm: assume the quantity in the vessel or pipe is spilled instantaneously to form a liquid pool.	The volatilization rate (release rate) shall be calculated at the boiling point of the substance and at the conditions specified in "Toxic liquids" below**.**
Toxic liquids at ambient temperature	Assume that the quantity is spilled instantaneously to form a liquid pool. • Undiked: Pool will spread until it is 1 cm deep. • Diked (passive mitigation): Pool will have surface area defined by the area within the dike.	Calculated by a model that includes volatilization rate, surface area, maximum temperature and concentration of the chemical in the pool, and the surface characteristics of the substrate underneath the spill.
Flammables (liquids or gases)	Make appropriate assumptions based on facility conditions. Consider both active and passive mitigation systems.[14,15]	
Solids	Assume one-hour release.	Use USEPA, OES or California Air Resources Board approved model. (Currently OES has not identified an air dispersion model

13 USEPA's Off-site Consequence Analysis Guidance Document, April 1999, Section 3.1.2
14 Ibid, Section 1.5.3
15 USEPA's General Guidance for Risk Management Programs, Chapter 4, Section 4-9

		for solids. The AA may want to confer with the local air quality management district or air pollution control district on appropriate air dispersion modeling.)

Alternative Release Scenario Analysis (Section 2750.4)

The facility must identify at least one alternative release scenario for each toxic chemical and one alternative release scenario for all flammable chemicals.

Each selected alternative release scenario must:

- Be more likely to occur than the worst-case release scenario above, and
- Potentially reach an endpoint offsite, unless no such scenario exists.

Potential alternative release scenarios might include:

- Transfer hose releases;
- Process piping releases;
- Process vessel or pump releases;
- Vessel overfilling and spill, or vessel over-pressurization and venting through relief valves or rupture disks; or,
- Shipping container mishandling; breakage or puncture leading to a spill.

Active and passive mitigation systems may be considered if they can withstand the event that triggered the release and remain functional. The facility must consider the following in selecting alternative release scenarios:

- The five-year accident history required by Section 2750.9; and
- Failure scenarios identified under Section 2755.2 or 2760.2.

Defining Offsite Impacts to the Population (Section 2750.5)

The facility shall estimate in the RMP the population within a circle with its center at the point of the release and a radius determined by the distance to the endpoint.

The population shall include residential populations and identify schools, hospitals, long term health care facilities, child day care facilities, prisons, recreational areas, commercial, office, industrial buildings, etc. The facility should use the most recent Census data, or other more accurate information, if it is available, to estimate, to two significant digits, the population potentially affected. See Appendix I for Census resources.

Defining Offsite Impacts to the Environment (Section 2750.6)

The facility shall list in the RMP the environmental receptors within a circle with its center at the point of the release and a radius determined by the distance to the toxic endpoint.

Environmental receptors are defined as natural areas such as national or state parks, forests, or monuments; officially designated wildlife sanctuaries, preserves, refuges, or areas; and Federal wilderness areas. Only environmental receptors that can be identified on local United States Geological Survey maps need to be considered.[16]

Offsite Consequence Analysis Review and Update (Section 2750.7)

Program Evaluation Notes

Evaluation Questions:
What method does the AA use to ensure the owner or operator reviews and updates the OCA information at least once every 5 years?

What method will the AA use to ensure the owner or operator revises the OCA within six months of a ***significant change*** and submits the revised RMP?

Demonstration of Compliance:
The evaluator will check the facility file for inspection reports and other records and look for the methodology used to deal with OCA information.

Examples of ***significant change*** include increasing or decreasing the distance to the toxic endpoint by a factor of two or more, or adding a new regulated chemical to a process, or doubling the quantity of a chemical in a process.

Offsite Consequence Analysis Documentation (Section 2750.8)

The facility shall maintain records on the offsite consequence analyses. For details of this requirement, refer to Section 2750.8 of the CalARP Program regulations.

16 USEPA's General Guidance for Risk Management Programs, Chapter 4

Five-year Accident History (Section 2750.9)

The five-year accident history is a record of all accidental releases from covered processes that resulted in deaths, injuries, evacuations, sheltering in place, property damage, or environmental damage.

Each accidental release record must include the information detailed in Section 2750.9(b), with numerical estimates provided to two significant digits.

Chapter 5. Program 2 Prevention Program

Safety Information (Section 2755.1)

Safety Information Requirements[17]

The facility must compile and maintain this safety information:	The facility must ensure:	The facility must update the safety information if:
• Material Safety Data Sheets. • Maximum intended inventory. • Safe upper and lower parameters. • Equipment specifications. • Codes and standards used to design, build, and operate the process.	That the process is designed in compliance with recognized codes and standards.	There is a major change at the facility that makes the safety information inaccurate.

Program Evaluation Notes

Evaluation Question: (2755.1(c))
What method does the AA use to verify the safety information is updated in the RMP following a major change in the process?

Demonstration of Compliance:
Check records and files for the safety information in the table above. Check for training records as well, and use the AA's inspections to check for compliance at the facility.

Hazard Review (Section 2755.2)

Hazard Review Requirements[18]

Conduct a review and identify…	Use a guide for conducting the review	Document results and resolve problems	Updating hazard review
• Hazards associated with the Program 2 process and chemicals.	• The facility may use any checklist (e.g., one provided in an industry-specific risk management	The facility's hazard review must be documented and must show that	• The facility must update its review at least once every 5 years or whenever there is a major change in the process. • The facility must resolve

17 USEPA's General Guidance for Risk Management Programs, Exhibit 6-2
18 Ibid, Exhibit 6-5.

• Potential equipment malfunction or human error that could cause a release. • Safeguards that will control the hazards or prevent a malfunction or error. • Equipment used or needed to detect or monitor releases.	program) to conduct the review. • For a process designed to industry standards like NFPA-58 or federal/state design rules, check the equipment to make sure that it's fabricated, installed and operated properly. • Equipment reliability data should be used to identify potential problems.	problems have been addressed.	significant problems identified in the new hazard review *before* the changed process is started up.

Program Evaluation Notes

Evaluation Questions:
Has each owner or operator consulted with the AA to select the appropriate methodology for the Hazard Review?

Does the Hazard Review include the consideration of applicable external events, including seismic events?

Has the owner or operator documented the results of the Hazard Review to ensure that problems identified are resolved in a timely manner?

What method does the AA use to verify that the Hazard Review is updated in the RMP after five years or when a major change occurs?

Demonstration of Compliance:
File review – assess Hazard Review methodology; look for notifications, training records, inspections, etc.

Operating Procedures (Section 2755.3)

Written operating procedures assist facility employees to maintain safe day-to-day operation of the facility. The procedures should provide a detailed description of the tasks that the operator of the process must perform, the safe operating parameters for the process, and safety guidelines for both operations and maintenance. Operating procedures or instructions provided by equipment

manufacturers, or developed by persons or organizations knowledgeable about the process and equipment, may be used as a basis for developing a facility's operating procedures. Operating procedures should cover elements for prevention of the reoccurrence of past accidents and address actions that have the potential to eliminate future releases.

Operating Procedures Requirements[19]

Steps for each operating phase	Other procedures
• Initial startup • Normal operations • Temporary operations • Emergency shutdown • Emergency operations • Normal shutdown • Startup following a normal or emergency shutdown or a major change	• Consequences of deviations • Steps required to correct or avoid deviations • Equipment inspections • Actions for emergency situations to minimize the magnitude of releases • Actions to ensure efficient coordination with emergency response and responders

The operating procedures must be appropriate for the equipment and operations; the procedures must be complete, and written in language easily understood by the operators.

Program Evaluation Notes

Evaluation Question: (2755.3(c))
What method does the AA use to verify the operating procedures are updated in the RMP prior to start-up after a major change occurs?

Demonstration of Compliance:
Check files for SOPs, look through these SOPs, notifications, training records and inspections.

Training (Section 2755.4)

All workers at a facility, including new or established workers, must be trained in the facility's operating procedures. If the operating procedures are revised, then everyone must be trained using the new procedures. Refresher training on the operating procedures must be provided at least every three years, regardless of whether they have been revised or not. It is also the facility's responsibility to ensure that each worker understands the training and is competent to safely operate the process.

19 USEPA's General Guidance for Risk Management Programs, Exhibit 6-7

The facility may use training conducted under federal or state regulations or under industry-specific standards or codes or training conducted by covered process equipment vendors that demonstrate the training meets the requirements of the CalARP Program.

Program Evaluation Notes

Evaluation Question: (2755.4(a))
How does the AA verify that the owner or operator has provided the proper initial training?

Demonstration of Compliance:
(Note: possible answers include review of training records, personal interviews, and training oversight.)

Evaluation Question: (2755.4(b))
How does the AA verify employees receive refresher training at least every 3 years?

Demonstration of Compliance:
(Note: possible answers include review of training records, personal interviews, and training oversight.)

Evaluation Question: (2755.4(d))
How does the AA verify that operators are trained in any updated or new procedures prior to start-up of a process after a major change?

Demonstration of Compliance:
(Note: possible answers include review of training records, personal interviews, and training oversight.)

Maintenance (Section 2755.5)

Maintenance Guidelines[20]

Written Procedures	Training	Inspection & Testing
The facility may use procedures provided by the vendor or trade associations as the basis for their program. If the facility chooses to develop its own, they must be written.	• Process maintenance employees must be trained in process hazards and how to avoid or correct unsafe conditions. • Training must cover the procedures applicable to safe job performance.	• Inspect & test process equipment. • Use recognized and generally accepted good engineering practices. • Follow a schedule that matches the manufacturer's recommendations or that prior operating experience indicates is necessary.

Program Evaluation Notes

Evaluation Question: (2755.5(a)(b)(c)&(d))
Does the owner or operator prepare and implement procedures to maintain an on-going mechanical integrity program for the process equipment?

Has the owner or operator trained or cause to be trained each employee involved in maintaining the on-going mechanical integrity of the process?

How does the owner or operator ensure that each contract maintenance employee is trained to perform the maintenance procedures developed under section (a)?

How does the AA verify the owner or operator performs inspections and required tests on process equipment?

Demonstration of Compliance:
(Note: possible answers include review of training records, maintenance logs/records, verification of industry standards/codes and manufacturer's recommendations.)

Compliance Audits (Section 2755.6)

The facility must evaluate its compliance with the requirements of the Program 2 Prevention Program at least every 3 years. The evaluation must be conducted by at least one person knowledgeable in the process and must result in a report of findings. The facility shall respond to each of the findings, and document that deficiencies have been corrected. The facility shall retain the two most recent reports, unless a report is older than five years.

20 USEPA's General Guidance for Risk Management Programs, Exhibit 6-9

Note: this is a self-audit and is not the same as the AA's periodic audit of the RMP, as required by Section 2775.2. For more information, see the section "Audits" in Chapter 9 of this document.

Program Evaluation Notes

Evaluation Question: (2755.6(a)(b)(c)&(d))
How does the AA verify the owner or operator has conducted a compliance audit at least every three years?

Demonstration of Compliance:
What type of certification does the AA require from the owner or operator?

(Note: possible answers include review certification statement, audit reports, and documentation of deficiencies and corrected deficiencies.)

Incident Investigation (Section 2755.7)

Incident Investigation Requirements[21]

If there has been an incident that resulted in, or could have resulted in, a catastrophic release of a chemical, the facility must:

Initiate an investigation promptly	Investigation must begin no later than 48 hours following the incident.
Summarize the investigation in a report	Among other things, the report must identify the factors contributing to the incident. Remember that identifying the root cause may be more important than identifying the initiating event. The report must also include any recommendations for corrective actions. Remember that the purpose of the report is to help management take corrective action.
Address the report's findings and recommendations	Establish a system to promptly address and resolve the incident report findings and recommendations, and document resolutions and corrective actions.
Review the report with staff and contractors	The facility must share the report – its findings and recommendations – with affected workers and contractors whose job tasks are relevant to the incident.
Retain the report	Incident investigation summaries must be kept for five years.

21 USEPA's General Guidance for Risk Management Programs, Exhibit 6-11

Program Evaluation Notes

Evaluation Question: (2755.7(a)&(b))
If there is an incident that resulted in, or could have resulted in, a catastrophic release, how does the AA verify that the owner or operator initiated an investigation within 48 hours of each incident? (Note: possible answers include an onsite visit with the owner or operator soon after a reported release, review of the summary findings and documentation of corrected deficiencies.)

Demonstration of Compliance:
(Note: the owner or operator is required to provide an immediately verbal report of any release or threatened release of a hazardous material pursuant to California Code of Regulations, Title 19, Section 2730 and HSC Section 25507.
Evaluation Question: (2755.7(c)(d)(e)&(f))
Was a summary report prepared at the conclusion of the investigation that includes the requirements contained in 2755.7(c) thru (f)?

Chapter 6. Program 3 Prevention Program

Process Safety Information (Section 2760.1)

The facility must compile written process safety information before conducting any Process Hazard Analysis (PHA). This process safety information must include information about the hazards of:

- The chemicals used in the process or produced by the process;
- The technology of the process, and;
- The equipment used in the process.

AA Perspective

What to look for in Process Safety Information:

Do observations of a representative sample of process chemicals and equipment indicate that the process information is complete? Information that does not correspond to the actual conditions demonstrates incomplete information. Check critical equipment and components to see if they have been properly documented. Check for reliability data for critical equipment.

Process Safety Information Requirements[22]

The facility must compile information on:

Chemicals	Process Technology*	Process Equipment**
• Toxicity • Permissible exposure limits • Physical data • Reactivity • Corrosivity • Thermal and chemical stability data • Hazardous effects of inadvertent mixing of different materials that could foreseeably occur	• A block flow diagram or simplified process flow diagram • Process chemistry • Maximum intended inventory • Safe upper and lower limits for such items as temperatures, pressures, flows or composition • An evaluation of the consequences of deviations	• Ensure proper materials of construction • Use "as is" piping and instrument diagrams (P&ID's) • Ensure proper electrical classification • Evaluate relief system design and design basis • Evaluate ventilation system design • Updated design codes and standards employed

22 USEPA's General Guidance for Risk Management Programs, Exhibit 7-3

		• Proper and adequate safety systems • Material and energy balances for processes built after June 21, 1999

*Note: Where the original technical information no longer exists, such information may be developed in conjunction with the PHA in sufficient detail to support the analysis.
**Note: The facility must document that equipment complies with recognized and generally accepted good engineering practices.

AA Perspective

What to look for in Chemical Information:

Based on interviews with a representative number of operators, is MSDS information readily available to the operators who work with hazardous materials, especially CalARP Program chemicals?

Material Safety Data Sheets (MSDS) meeting the requirements of Section 5189 of Title 8 of CCR (CalOSHA) may be used to comply with this requirement if they contain the information summarized in the table above.

AA Perspective

What to look for in Process Equipment Information:

Ask about the technical basis for design and selection of equipment, the materials of construction, electrical classifications, relief device sizing versus maximum anticipated pressures, installation procedures to assure equipment meets design specifications, etc. Review the documentation for evidence that the appropriate consensus standards have been researched. You may need to interview an engineer or other qualified persons capable of providing the information requested. Do the P&ID's show all the pieces of equipment and have they been updated since any changes? You might have to spend some time "walking the line" to physically verify the P&ID's, but they are the first and easiest item to "get out of sync" in a facility that has made any changes. If the facility starts using inaccurate P&ID's to conduct the next hazard analysis, that could be a recipe for disaster.

For existing equipment designed and constructed in accordance with codes, standards, or practices that are no longer in general use, the owner or operator shall determine and document that the equipment is designed, maintained, inspected and tested, and is operating in a safe manner. Remember the federal General Duty Clause requires the operation of a safe facility.

AA Perspective

What to look for in Outdated Codes and Standards:

Is critical equipment documented as currently being inspected and operated in a safe manner? Documentation may be through methods such as: documenting successful prior operational procedures; documenting that the equipment is consistent with the appropriate editions of code and standard requirements; or performing an engineering analysis to determine that the equipment is appropriate for its intended use.

Process Hazard Analysis [PHA] (Section 2760.2)

The facility shall perform an initial PHA, or hazard evaluation, on CalARP Program processes. The PHA shall be conducted as soon as possible during the development of the CalARP Program, but not later than the date of submittal of the RMP. PHAs completed to comply with Section 5189 of Title 8 of CCR (CalOSHA) are acceptable as initial PHAs. These PHAs shall be updated and revalidated, based on their completion date.

Process Hazard Analysis Requirements[23]

The PHA must cover:	Techniques must use one or more of:	Other requirements:
• Hazards of the process • Identification of previous potentially catastrophic incidents • Engineering and administrative controls applicable to the hazards • Consequence of failure of controls • Facility siting issues • Human error factors • Qualitative evaluation of health and safety impacts of control failure • External events, including fire and seismic, if applicable	• What If • Checklist • What If/Checklist • Hazard and Operability Study (HAZOP) • Failure Mode and Effects Analysis (FMEA) • Fault Tree Analysis • Appropriate equivalent methodology	• Analysis must be done by a team, one member of which has experience in the process, one member of which is knowledgeable in the PHA technique • A system must be developed for addressing the team's recommendations, documentation of hazards, recommended resolution, and corrective actions taken • The PHA must be revalidated and updated at least once every five years • PHAs and documentation of actions must be kept for the life of the process

23 USEPA's General Guidance for Risk Management Programs, Exhibit 7-4

AA Perspective

What to look for in PHA Completion Dates:

If the facility is using PHA's completed to comply with Title 8 CCR 5189, that completion date should have been performed by 8/10/97 and updated or revalidated at least every five (5) years. There should also be a new PHA for management of change and pre-startup review on any modifications to the process which occur during the interim.

Program Evaluation Notes

Evaluation Question:
Has the AA worked closely with the owner or operator to provide input to decide which PHA methodology is best suited to evaluate the hazards of the process being analyzed?

Demonstration of Compliance:
Explain how the AA complies with this requirement. Keep copies of telephone logs, letters and e-mails.

AA Perspective

What to look for in Engineering and Administrative Controls:

In addition to detection systems, look for inventory reduction; substitution of less hazardous materials; protective systems such as deluges, monitors, foams; increased separation distances; to reduce or eliminate "co-location"; modification of the process temperature or pressure; redundancy in instrumentation; etc.

AA Perspective

What to look for in Consequences of Failure of Controls:

Potential injury (or death), increased or maximum release of chemicals, significant off-site consequences, property damage, etc.

AA Perspective

What to look for in Facility Siting:

Review off-site consequence calculations, charts, P&IDs and other documents that verify facility siting has been considered, both within and outside the fence line, ("siting" can relate to the relationship between the covered process and the facility itself, as well as offsite receptors). For example, safe distances for locating control rooms may be based on studies of the individual characteristics of equipment involved and potential accident issues, such as: types of construction or set-up of the control room, types and quantities of the chemicals, types of reactions and processes, operating pressures and temperatures, presence of ignition sources, fire protection systems, capabilities to respond to fires or explosions, drainage of the facility, location of fresh air intakes related to potential released gases, etc.

AA Perspective

What to look for in consideration of External Events:

The facility should address reasonably foreseeable occurrences from outside the process or the facility that could cause a catastrophic release. In the past, this is where Y2K compliant computer controls should have been addressed. California is subject to other natural disasters besides just earthquakes (wildfires, floods, landslides, high winds, coastal storm surges, etc.). Any of these might affect the facility and may not have otherwise been addressed as siting issues. In this post "9/11" era, sabotage and terrorism clearly should be considered as well as other activities such as strikes, walk-outs, labor or Union unrest or environmental activism.

AA Perspective

What to look for in PHA Recommendations:

PHA recommendations could be addressed in the Executive Summary of the RMP document itself, under "Planned Changes to Improve Safety." Low risk recommendations may be addressed by internal documentation verifying that they are low risk and will be handled accordingly. However, insist that the important items which the facility has identified as needing improvement are addressed in the RMP document. Do not accept the RMP as complete unless or until PHA recommendations are specified and scheduled in the RMP to become planned changes for improved safety. This is critical to effective CalARP Program implementation.

Program Evaluation Notes

Evaluation Question:
What method does the AA use to verify updates and revalidation of the PHA at least every 5 years?

Demonstration of Compliance:
(Note: possible answers include review of documentation during inspection.)

Operating Procedures (Section 2760.3)

Operating Procedures Requirements[24]

The facility's written operating procedures must address:

Steps for each operating phase	Operating limits	Safety and health considerations	Safety systems and functions
• Initial startup • Normal operations • Temporary operations • Emergency shutdown • Emergency operations • Normal shutdown • Startup following a turnaround or emergency shutdown • Lockout/tagout • Confined space entry • Opening process equipment or piping • Entrance into the facility	• Consequences of deviations • Steps to avoid, correct deviations	• Chemical properties & hazards • Precautions for preventing chemical exposure • Control measures for exposure • QC for raw materials and chemical inventory • Special or unique hazards	Address whatever is applicable

24 USEPA's General Guidance for Risk Management Programs, Exhibit 7-5

AA Perspective

What to look for in Operating Procedures:

Do operations personnel know where to find Operating Procedures when necessary? Spot check the individual Operating Procedures versus the requirements for completeness and accuracy. Observe or interview employees to see if actual procedures performed on-site match the written Operating Procedures. Do the Operating Procedures reflect the Maintenance Procedures before and after turnarounds (a maintenance activity)?

Operating Procedures shall be readily accessible to employees who work in or maintain a process. The Operating Procedures shall be reviewed as often as necessary to assure that they reflect current operating practice, including changes that result from changes in process chemicals, technology, or equipment, and changes to the facility. The owner or operator shall certify annually that Operating Procedures are current and accurate.

Program Evaluation Notes

Evaluation Questions:
How does the AA verify the Operating Procedures are:

- Readily accessible to employees?
- Annually certified as current and accurate by owner or operator?

Demonstration of Compliance:
Verify the existence and location of Operating Procedures during inspection. Interview employees to see if they are aware of them and their contents.

AA Perspective

What to look for under Safe Work Practices:

This could be another site security and anti-sabotage (anti-terrorism) provision, in addition to addressing external events under the process hazard analysis. Watch for how the facility controls entrance into their stationary source. This is also the "catch-all" section for every other Cal-OSHA requirement that may apply, to the extent that review of these other regulatory agency requirements is necessary to ensure implementation of an effective CalARP Program.

Training (Section 2760.4)

AA Perspective

What to look for in Training:

The intent of this section helps employees understand the nature and causes of problems arising from process operations and increases employee awareness with respect to the hazards particular to a process. An effective training program significantly reduces the number and severity of incidents arising from process operations, and can be instrumental in preventing small problems from leading to a catastrophic release. Minimum requirements for an effective training program include: Initial Training, Refresher Training, and Certification records.

The facility shall ascertain that each employee involved in operating a process has received and understands the training required below. The facility shall prepare a record which contains the identity of the employee, the date of training, and the means used to verify that the employee understood the training.

Training Requirements

Type	Who is Trained	What
Initial	Employees presently involved in operating a process. Each employee before being involved in operating a newly assigned process.	An overview of the process and the operating procedures as specified in Section 2760.3 of the CalARP Program. Emphasize the specific safety and health hazards, emergency operations including shutdown, and safe work practices applicable to the job tasks
"Grandfathering" of Initial Training	None. Competency certification for employees already involved in operating a process on June 21, 1999	This requirement is no longer applicable as of June 21, 2002 (see Refresher Training)
Refresher Training	Each employee involved in operating a process to assure that the employee understands and adheres to the current operating procedures of the process	Provided at least every 3 years, and more often if necessary. The facility, in consultation with the employees involved in operating the process, shall determine the appropriate frequency of refresher training

AA Perspective

What to look for in Training Documentation:

There does not have to be a written test, but there must be some written document to verify that operators "understand" the training provided to them on each occasion there has been training. Other means of verifying comprehension, such as on-the-job demonstrations, etc., are acceptable as long as they are adequately documented. Don't forget to review the contractor's training records while you are at it.

AA Perspective

What to look for in Initial Training:

For ammonia refrigeration operators in particular, there is an industry standard certification for training provided by the Refrigerating Engineers and Technicians Association (www.RETA.com) which can be used to demonstrate proficiency in all of the initial training requirements. CalARP Program regulatory agency personnel are encouraged to seek this RETA certification themselves if there are ammonia refrigeration facilities in the jurisdiction. HAZWOPER certifications help to demonstrate training on safety and health hazards.

AA Perspective

What to look for in "Grandfathering" Training Certification:

The certification must be in writing and may be based on the job evaluation or other equivalent determination methods. Review the documents to make sure the certification has not been invalidated by a change in duties. Whenever any new Operating Procedures are developed, the employer must document the new training to operating employees, even if they were previously "grandfathered."

Program Evaluation Notes

Evaluation Question:
How does the AA verify that the owner or operator has provided the proper initial training?

Demonstration of Compliance:
Training records, interviews of employees.

AA Perspective

What to look for in Refresher Training:

Refresher training, at least every three years, has got to cover at least all of the same topics as initial training: overview of the process, Operating Procedures, with an emphasis on health & safety and safe work practices, including emergency shutdown and emergency response operations. Annual HAZWOPER refresher is a good way to demonstrate the safety and health refresher training. Annual review of the facilities Standard Operating Procedures (SOP's) is a good way to demonstrate an overview of the process. At the same time, the SOP's can be annually certified, since all the involved employees have just gone over them and can address anything that needs correcting. Remember, the SOP's have to be annually certified anyway. Also remember, Management of Change & Pre-startup Review training of any new Operating Procedures implemented due to any changes to the process during the past three years does not fully satisfy the entire refresher training requirement; that is another separate training requirement.

Program Evaluation Notes

Evaluation Questions:
How does the AA verify employees receive refresher training at least every 3 years?

How does the AA verify that the owner or operator ensures that employees understand all required training?

Demonstration of Compliance:
(Note: possible answers include review of training records, personal interviews, and training oversight.)

Mechanical Integrity (Section 2760.5)

Mechanical Integrity Chart[25]

The facility shall:

Written procedures	Training	Inspection & testing	Equipment deficiencies	Quality assurance
• Establish & implement written procedures to maintain the integrity of process equipment.	• Train process maintenance employees in an overview of the process and its hazards. • Make sure this training covers procedures applicable to safe job performance.	• Inspect and test process equipment. • Use recognized and generally accepted good engineering practices. • Follow a schedule that matches the manufacturers' recommendations or set more frequently if prior operating experience indicates it is necessary. • Document each inspection & test with: Date, inspector name, equipment identifier, test or inspection performed, results.	• Correct equipment deficiencies before further use of process equipment or whenever it is necessary to ensure safety.	• Establish a QA program for new construction & equipment, newly installed equipment, maintenance materials, and spare parts & equipment.

25 USEPA's General Guidance for Risk Management Programs, Exhibit 7-6

AA Perspective

What to look for in Mechanical Integrity:

A "breakdown" maintenance program (i.e., where action is taken only when something breaks down) does not meet the requirements of this section. Is there an on-going mechanical integrity program, perhaps using a computerized scheduling system that automatically determines when maintenance is due? Check with maintenance personnel to determine how they follow the written maintenance procedures. Spot check records to verify that maintenance is being performed in accordance with manufacturers' recommendations. Identical or similar vessels and equipment in similar service do not need to have individualized maintenance procedures. Each procedure must therefore clearly identify the equipment to which it applies. However, there should be an inspection and/or service record on each vessel and piece of equipment in the covered process. Include any contractor-supplied equipment, as well. Review certification documents for employees doing non-destructive tests, welding on pressure vessels, etc., where these certifications are required. Ask about the possibility of safety critical equipment being inadvertently rendered inoperative during any maintenance procedures. For example, a relief device might somehow be isolated by closing an upstream valve in order to service the equipment. Remember to include equipment reliability analysis.

AA Perspective

What to look for in Written Procedures:

Review the equipment budget, and invoices to insure proper care has been given to equipment. Ask about the manufacturers recommended intervals of maintenance such as alignment, oil, filter changes and spot check references and records to ensure that manufactures recommendations are being followed.

Example References:
IIAR Bulletin 109 Safety Inspection forms, equipment make/model/serial-type information, there should be completed data. ANSI/ASME B31.5-1987

Program Evaluation Notes

Evaluation Question:
How does the AA verify that the owner or operator established and implemented written maintenance procedures?

Demonstration of Compliance:
Review records and files. Interview maintenance employees.

AA Perspective

What to look for in Training for Process Maintenance Activities:

New maintenance employees must be trained before beginning work at the site, and all maintenance employees receive additional training appropriate to their constantly changing job tasks. Although maintenance employees don't need to be trained to the same extent as operators, they must be trained to perform their job in a safe manner. Therefore, a maintenance worker fixing a process breakdown must be trained in both the operating procedures relevant to the repair and the facility's emergency response plan.

AA Perspective

What to look for in Inspection and Testing:

Even though the regulations say "process equipment," (e.g.: relief valves and shut-down systems), don't let the facility forget about testing all other types of emergency equipment such as exhaust fans and leak detectors. In fact, all safety equipment should have the most rigorous and frequent inspection and testing schedule of all.

AA Perspective

What to look for in Equipment Deficiencies:

If continued safe operation of the process cannot be ensured, then the equipment deficiencies must be corrected before further use. However, the facility may continue operation of the process only until safe shutdown can be accomplished so that the corrections can then be made. During the period leading up to shutdown, interim protective measures and continuous monitoring of the equipment must be performed as necessary to ensure safe operation.

Program Evaluation Notes

Evaluation Question:
How does the AA verify that the owner or operator has corrected identified equipment deficiencies?

Demonstration of Compliance:
Check maintenance records, interview maintenance employees.

AA Perspective

What to look for in Quality Assurance:

Watch out for the use of incompatible metals in anhydrous ammonia systems. Brass, copper, or even galvanized pipe or fittings should not be used with ammonia. Watch for "shoe-string" budget repairs being performed at the facility instead of hiring specialized service contractors or sending equipment out for repairs or replacement parts. A lot of process equipment runs at very high RPM's with close tolerances (thousandths of an inch). If a repair or even a "replacement in kind" is attempted solely by the facility on their workbench as a cost cutting measure and is not done to exact manufacturer's specifications, that piece of equipment could fail and cause a major release of the regulated substance.

The stationary source is responsible for ensuring that new construction, new equipment, maintenance materials, and spare parts are installed consistent with design specifications and manufacturer's instructions. This also requires the facility to be involved in the review, inspection, certification, and quality assurance of any work performed by outside contractors.

Management of Change (Section 2760.6)

The facility must establish and implement written procedures to manage changes to process chemicals, technology, equipment, and procedures; and all other changes to the facility that affect a covered process, except for "replacements in kind."

AA Perspective

What to look for in Management of Change:

Review procedures that address responsibilities, steps for addressing risks and approving changes, requirements for reviewing designs for temporary and permanent changes, steps needed to verify that modifications have been made as designed, variance procedures, time limit authorizations for temporary changes, and steps required to return the process to status quo after temporary changes. Determine if records are created and maintained to support the procedures for new or revised processes that exist in the facility.

Requirements for Management of Change (MoC)[26]

MoC procedures must address:	Employees affected by the change must:	Update Process safety information if:	Update operating procedures if:
• Technical basis for the change • Impact on safety and health • Modifications to operating procedures • Necessary time period for the change • Authorization requirements for the proposed change	• Be informed of the change before startup • Be trained in the change before startup	A change covered by MoC results in a change in the process safety information required by Section 2760.1 of the CalARP Program regulations	A change covered by MoC results in a change in any operating procedures required by Section 2760.3 of the CalARP Program regulations

Program Evaluation Notes

Evaluation Question:
How does the AA verify that the owner or operator has established and implemented written procedures to manage changes that affect a covered process?

Demonstration of Compliance:
File and record review. Interview employees.

Pre-Startup Review (Section 2760.7)

The facility shall perform a pre-startup safety review for new facilities and for modified facilities when the modification is significant enough to require a change in the process safety information.

26 USEPA's General Guidance for Risk Management Programs, Exhibit 7-7

AA Perspective

What to look for in Pre-Startup Safety Reviews:

In addition to the items listed in the CalARP Program regulations, check to make sure that employee participation (including contractors) occurred in both the PHA and the Pre-Startup Review. Were the Operating Procedures updated accordingly, and did the additional training result because the modification occurred prior to the startup?

Requirements for Pre-Startup Review[27]

Design Specifications	Adequate Procedures	PHA/MoC	Training
Confirm that new or modified construction and equipment meet design specifications.	Ensure that procedures for safety, operating, maintenance and emergencies are adequate and in place.	Perform a PHA and resolve or implement any recommendations for the new process. Meet the MoC requirements for modified process.	Confirm that each employee involved in the process has been trained completely.

Program Evaluation Notes

Evaluation Question:
How does the AA verify that the owner or operator has performed a pre-startup safety review for new or modified stationary sources when the modification is significant enough to require a change in the process safety information?

Demonstration of Compliance:
Files, records, checklist. Interview employees.

Compliance Audits (Section 2760.8)

The facility must certify that it has evaluated its compliance with the requirements of the Program 3 Prevention Program at least every 3 years. The evaluation must be conducted by at least one person knowledgeable in the process and must result in a report of findings. The facility shall respond to each of the findings and document that deficiencies have been corrected. The facility shall retain the two most recent reports.

27 USEPA's General Guidance for Risk Management Programs, Exhibit 7-8

Note: this is a self-audit and is not the same thing as the AA's periodic audit of the RMP, as required by Section 2775.2. For more information, see the section "Audits" in Chapter 9 of this document.

AA Perspective

What to look for in Compliance Audits:

The stationary source should be looking for the same important things that the local agency should be looking for: Have the items that the PHA identified as needing attention been performed as scheduled? Were the SOP's annually certified as correct? Is Management directly accountable for Mechanical Integrity insuring that maintenance is not subordinated to production or else reduced in scope whenever the budget gets tight? Try to pick up on the corporate culture of what the stationary source thinks is important.

Program Evaluation Notes

Evaluation Question:
How does the AA verify the owner or operator has conducted a compliance audit at least every three years?

Demonstration of Compliance:
(Note: possible answers include review certification, audit reports, and documentation of corrected deficiencies. Interview employees.)

Incident Investigation (Section 2760.9)

Incident Investigation Requirements[28]

The facility must:

Initiate an investigation promptly	Begin investigating no later than 48 hours following the incident
Establish a knowledgeable investigation team	This team will gather the facts, analyze the event and develop the how and why of what went wrong. At least one team member must have knowledge of the process involved. Consider adding other workers in the process area where the incident occurred. Their knowledge will be significant and should give you the fullest insight into the incident
Summarize the	Among other things, the report must identify the factors contributing

28 USEPA's General Guidance for Risk Management Programs, Exhibit 7-9

investigation in a report	to the incident. Remember that identifying the root cause may be more important than identifying the initiating event. The report must also include any recommendations for corrective actions. Remember that the purpose of the report is to help management take corrective action
Address the team's findings and recommendations	Establish a system to address promptly and resolve the incident report findings and recommendations; document resolutions and corrective actions
Review the report with staff and contractors	The report, with its findings and recommendations, must be shared with affected workers whose job tasks are relevant to the incident
Retain the report	Keep incident investigation reports for five years

AA Perspective

What to look for in Incident Investigation:

Look for investigations of "near-misses." If the stationary source hasn't had an accident to investigate, that's one thing (a good thing), but if there are no records investigating any near misses then something is probably amiss. No facility is so squared away that there isn't something out there that needs to be tended to from time to time. The shear lack of any near misses being investigated could mean that either the employees are hiding them or management's ignoring them. There ought to be an incentive program for employees to bring near misses to management's attention to have them investigated and corrected. Near misses are a good and early opportunity to correct situations that could otherwise eventually result in an accidental release.

Program Evaluation Notes

Evaluation Question:
If there is an incident that resulted in, or could have resulted in, a catastrophic release, how does the AA verify that the owner or operator initiated an investigation within 48 hours of each incident?

Demonstration of Compliance:
(Note: possible answers include an onsite visit with the owner or operator soon after a reported release, review of the summary findings and documentation of corrected deficiencies.)

Evaluation Question:
How does the AA verify the owner or operator retains incident investigation reports for 5 years?

Demonstration of Compliance:
(Note: owner or operator are required to provide an immediately verbal report of any release or threatened release of a hazardous material per Title 19, CCR, Section 2703 and HSC Section 25507.)

Employee Participation (Section 2760.10)

Employee Participation Requirements[29]

The facility must:

Write a plan.	Develop a written plan of action regarding how the facility will implement employee participation.
Consult with employees.	Consult with the facility employees and their representatives regarding conducting and developing PHAs and other elements of process safety management in the CalARP Program.
Provide access to information.	Ensure that the facility employees and their representatives have access to PHAs and all other information required to be developed by CalARP Program

AA Perspective

What to look for in Employee Participation:

Never forget about who's actually running the plant: it's the "hourly" workers. As CalARP Program regulators, we're typically only interacting with plant management, engineers, and "salaried" RMP/PSM staff. In theory, these people know how their plant operates and ultimately make decisions on process changes. In reality, it's the hourly workers who really know the nuances of the operation, and can be invaluable in foreseeing the effects of any proposed modifications. This is one area of the Prevention Program where the both the plant manager and the youngest apprentice should be regarded on the same level. Make sure that the plant manager and the hourly workers are both somehow included in this employee participation plan. Don't forget about contractors too, although if there's going to be some major change, chances are that contractors are going to be involved as part of the mix at the management level anyway.

29 USEPA's General Guidance for Risk Management Programs, Exhibit 7-10

Program Evaluation Notes

Evaluation Question:
How does the AA verify that the owner or operator has developed a written employee participation plan?

Demonstration of Compliance:
(Note: possible answers include verification during inspection. Review SOP and interview employees.)

Hot Work Permit (Section 2760.11)

Requirements for Hot Work Permits[30]

The facility must:

Issue a hot work permit	The facility must issue this permit for hot work conducted on or near a covered process
Implement fire prevention and protection	The facility must ensure that the fire prevention and protection requirements in Section 5189 of Title 8 of CCR are implemented before the hot work begins. The permit must document this
Indicate the appropriate dates	The permit should indicate the dates authorized for hot work
Identify the work	The permit must identify the object on which hot work is to be performed
Maintain the permit on file	The facility must keep the permit on file until workers have completed the hot work operations

AA Perspective

What to look for in Hot Work Permits:

There's a really good standard Hot Work Permit form which was developed by Factory Mutual and is reprinted in National Fire Protection Association (NFPA) Standard 51B. This one page permit "checklist" covers all the hot work requirements typically found in the Uniform Fire Code (Article 49) and Cal-OSHA regulations (sections 4848 & 6777). You'll want to look these up for your own benefit, as well as to make sure the stationary source is complying with them, no matter what form their hot work permit takes. Are contractors also complying with the hot work permit requirement?

30 USEPA's General Guidance for Risk Management Programs, Exhibit 7-11

Program Evaluation Notes

Evaluation Question:
How does the AA ensure the owner or operator has a process for issuing hot work permits?

Demonstration of Compliance:
(Note: possible answers include verification of procedures or documentation during inspection.)

Contractors (Section 2760.12)

This chart summarizes the responsibilities of the facility and of any contractors that perform maintenance or repair, turnaround, major renovation, or specialty work on or adjacent to a covered process.

Contractor's Chart[31]

The Facility Must…	The Contractor Must…
Check safety performance: When selecting a contractor, the facility must obtain and evaluate information regarding the safety performance of the contractor.	**Ensure training for its employees:** The contractor must train its employees to ensure that they perform their jobs safely and in accordance with the facility's safety procedures.
Provide safety and hazards information: The facility must inform the contractor of potential fire, explosion, or toxic release hazards; and of your emergency response activities as they relate to the contractor's work and the process.	**Ensure its employees know process hazards and applicable emergency actions:** The contractor must assure that contract employees are aware of hazards and emergency procedures relating to the employees' work.
Ensure safe practices: The facility must ensure safe work practices to control the entrance, presence and exit of contract employees in covered process areas.	**Document training:** The contractor must prepare a record documenting and verifying adequate employee training.
Verify that the contractor acts responsibly: The facility must verify that	**Ensure its employees are following the facility's safety procedures**

31 USEPA's General Guidance for Risk Management Programs, Exhibit 7-12

the contractor is fulfilling its responsibilities.	
	Inform the facility of hazards: The contractor must tell the facility of any unique hazards presented by its work or of any hazards it finds during performance.

AA Perspective

What to look for in Contractors:

If there's going to be any time when an accident is likely to occur, it's probably going to happen when there's a lot of people at the plant, who don't usually belong there, doing things that aren't usually being done. We're talking about contractors now, and we're probably in the middle of some process change where PHA's, Employee Participation, MoC's, Pre-Startup Review and associated SOP revisions and training are involved. Contractors need to be considered and consulted in all of these prevention program elements in the same manner as regular hires. The stationary source has the responsibility to bring the contractors into their CalARP Program process and providing the necessary instruction in process safety and emergency action planning. Is the stationary source also screening contractors' safety records? Ask to see copies of the contractors' injury and illness (OSHA 300) logs that the stationary source should have requested and have on file. How does the safety records compare between bidding contractors? Does the low cost bidder also have the worst safety record?

Chapter 7. Emergency Response Program

Emergency Response Applicability (Section 2765.1)

A facility with a Program Level 1 process shall ensure that response actions have been coordinated with local emergency planning and response agencies (Section 2735.5(d)(3)). For Program Level 2 or Program Level 3 processes, consult the sections on "Non-Responding Facilities" and "Responding Facilities" below.

Non-Responding Facilities

A facility does not have to respond to accidental releases of chemicals or comply with Section 2765.2 of the CalARP Program Regulations if they meet the following criteria:

- If the facility has toxic chemicals and is included in the community emergency response plan developed under Section 11003 of Title 42 of the United States Code (USC). Note: this is the Local Emergency Planning Committee (LEPC) requirement regarding Regional Plans. See the end of this Chapter for an additional LEPC discussion.

- If the facility has only flammable chemicals and has coordinated response actions with the local fire department; and,

- Appropriate mechanisms are in place to notify emergency responders when there is a need for a response.

Program Evaluation Notes

Evaluation Question:
For those stationary sources whose employees will not respond to accidental releases of regulated substances, how does the AA verify the owner or operator has met the following requirements:

The stationary source with any *toxic* regulated substances is included in the community emergency response plan developed under Section 11003 of Title 42 of the USC (Note: LEPC requirement – Regional Plan, and the Area Plan developed under Article 1 of HSC Chapter 6.95);

The stationary source with regulated *flammable* substances (only) has coordinated response actions with the local fire department; and

The stationary source has appropriate mechanisms in place to notify emergency responders when there is a need for a response

Emergency Response Program (Section 2765.2)

Responding Facilities

If the employees of a facility are going to respond to an accidental chemical release at the facility, the facility must develop and implement an emergency response program for the purpose of protecting public health and the environment. The emergency response program must include the following elements:

- An emergency response plan, maintained at the facility and containing at least the following elements:
  - Procedures for informing and interfacing with the public and local emergency response agencies about accidental releases, emergency planning, and emergency response. Note: See the end of this Chapter for a LEPC discussion;
  - Documentation of proper first-aid and emergency medical treatment necessary to treat accidental human exposures; and,
  - Procedures and measures for emergency response after an accidental release of a regulated substance;
- Procedures for the use of emergency response equipment and for its inspection, testing, and maintenance;
- Training for all employees, who are expected to respond to a release, in relevant procedures and relevant aspects of the Incident Command System (ICS). Note: ICS training is important for employees who are required by their job description and positional responsibility to appropriately respond and interact with local emergency response agencies during a release; and,
- Procedures to review and update, as appropriate, the emergency response plan to reflect changes at the stationary source and ensure that employees are informed of changes.

A written plan that complies with the contingency plan format developed pursuant to Section 25503.4 of HSC (this references the state Consolidated Contingency Plan which is related to the federal "One Plan.") The plan must include the elements provided above and satisfy the requirements of this section, if the facility also complies with the following paragraph. The contingency plan format shall be provided by OES upon request (and is also available at www.calcupa.net).

The emergency response plan shall be coordinated with the community emergency response plan developed under Section 11003 of Title 42 of USC (LEPC requirement for a Community Emergency Response Plan). Upon request of the LEPC or emergency response officials, the facility shall promptly provide to the local emergency response officials

information necessary for developing and implementing the community emergency response plan. See the end of this Chapter for a LEPC discussion.

The facility is not required to meet the business plan requirements if the emergency response plan is consistent with the business plan requirements pursuant to Sections 2731 and 2732 of Title 19 of CCR. This does not exempt the facility from requirements which relate to the annual inventory or emergency response planning for hazardous materials which are not regulated substances in the CalARP Program.

AA Perspective

What to look for in Responding Facilities:

Some of the most valuable lessons learned about whether the emergency response plan is effective is to have an on-site drill with local responders and evaluate if the local responders interact effectively with facility personnel. At the conclusion of the exercise, a report needs to be developed as a result of a debriefing of all the participants at this drill. This essentially is a written critique of the response plan and its effectiveness in mitigating the effects of a release.

AA Perspective

What to look for in Emergency Response Program:

Look for the response to alarm systems, emergency shutdown and ventilation, and emergency relief treatment systems in particular. Cal-OSHA regulations (section 6184) and Uniform Fire Code (Article 63 for refrigeration) offer some really good alarm system operation and maintenance requirements. But more than just making noise, you'll want to see these alarm systems do something positive: like kick on emergency exhaust and other treatment systems. If accidental releases can start getting detected and mitigated without a whole lot of human intervention, that makes for a much better emergency response program.

AA Perspective

What to look for in Emergency Response Program (II):

Section 2765.3(a)(1)(A) of the CalARP Program regulations specifically states that the facility must have a procedure in place to inform and interface with the public about accidental releases. This has been a point of interest during recent USEPA audits of California facilities. If the facility has identified any nearby sensitive public receptors such as schools, hospitals, childcare, assisted living, etc., that could be affected by a release from that facility, the procedure should provide for sharing emergency information with them.

Program Evaluation Notes

Evaluation Questions:
How does the AA verify that the following requirements for the owner or operator's emergency response program is met?

The development and implementation of an emergency response plan;

Procedure for the use of emergency response equipment and for its inspection, testing, and maintenance;

Training for all employees, who are expected to respond to a release, in the Incident Command System.

How does the AA verify that the emergency response plan has been coordinated with the community emergency response plan?

LEPC Coordination

USEPA has provided further guidance on the federal requirement for LEPC coordination:

- Whether or not a facility responds to a toxic or flammable chemical release (for example, with its own hazmat team), it still must coordinate with the LEPC or the fire department for response action and ensure that a system for emergency notification is in place. This requirement means that the facility must be certain that local responders can handle potential releases. If responders do not have the training or equipment to respond to a particular type of chemical release, the facility must arrange for an appropriate response (for example, by establishing a mutual aid agreement with an industry response team).[32]

- RMPs must be provided by the facility to LEPCs *upon request*.[33] If an LEPC obtains an RMP, they need to be aware of the sensitivities about releasing RMP information, especially OCA information, to the public. See "Availability of Information to the Public" in Chapter 9. LEPCs will then incorporate the CalARP Program facility information into their Community Emergency Response Plan.

A high level of community emergency planning is critical in California; state law requires the coordination of other entities and agencies in California. Here, the facility must provide its RMP to the AA, to USEPA if applicable, to the LEPC if requested, and to the local fire department (if requested, assuming the local fire department is not already an AA).

32 USEPA's "RMPs Are On The Way!" November 1999, EPA 550-B99-003, page 28
33 Ibid.

Pursuant to HSC requirements, AAs not only implement the CalARP Program at the local level, but they are also required to update and review Area Plans,[34] which should include CalARP Program facilities.

Ideally, the AAs and LEPCs should coordinate their respective Area Plans and Community Emergency Response Plans to integrate all aspects of community emergency response planning.

34 HSC 25503(c)

Chapter 8. Regulated Substances for Accidental Release Prevention

Threshold Determination (Section 2770.2)

A threshold quantity of a chemical is present at a facility if the total quantity of that chemical, contained in a process, exceeds the threshold listed in Section 2770.5 of the CalARP Program regulations. (See Appendix A for a summary.) Conversely, if a facility does not have a threshold quantity of a regulated chemical in a process, the facility is not subject to the CalARP Program regulations.

The following applies for threshold determination:

Toxic Chemicals

- A mixture containing less than 1 percent by weight of a **toxic** chemical does not count toward a threshold quantity of the chemical at that facility. A mixture containing a toxic chemical is regulated only if the concentration of the chemical in the mixture is 1 percent or greater by weight. The facility need only consider the weight of the chemical in the mixture, not the entire weight of the mixture.

- If the partial pressure of a **toxic** chemical in a mixture (solution) is less than 10 millimeters of mercury (mm Hg), **under handling or storage conditions**, that portion of the chemical in the relevant process does not count toward a threshold quantity of the chemical at that facility. The facility must document any exempted portions of processes where the partial pressure measurements or estimates are less than 10 mm Hg. This exemption does not apply to:

    - Table 3 solids;
    - Footnote 2 chemicals from Table 3, Section 2770.5 of the CalARP Program Regulations, and;
    - oleum, toluene 2,4-diisocyanate, toluene 2,6-diisocyanate and toluene diisocyanate (unspecified isomer).

Flammable Chemicals

- A mixture containing less than 1 percent by weight of a **flammable** chemical does not count toward a threshold quantity of the chemical at that facility. After noting the exceptions bulleted below, if the concentration of the chemical is 1 percent or greater by weight of the mixture, and the NFPA flammability hazard rating is 4, then the *entire* weight of the mixture shall be treated as the regulated chemical. The exceptions are:

    - Flammable fuels (see "Exemptions and Exclusions" below).

    - Chemicals in gasoline, when in distribution or related storage for use as fuel for internal combustion engines, do not count toward a threshold quantity of the chemicals at the facility.

- Chemicals in naturally occurring hydrocarbon mixtures, prior to entry into a natural gas processing plant or a petroleum refining process unit, do not count toward a threshold quantity of the chemicals at the facility. Naturally occurring hydrocarbon mixtures include any combination of the following: condensate, crude oil, field gas, and produced water, each as defined in the CalARP Program regulations, Section 2735.3.

Miscellaneous

- Chemicals contained in **manufactured articles** do not count toward a threshold quantity of those chemicals at the facility, providing that:
  - The article is formed to a specific shape or design during manufacture;
  - The article has end use functions that are dependent upon the shape or design during end use, and;
  - The article does not normally release the chemical during manufacture or end use.[35]
- Chemicals used for the following purposes do not count toward a threshold quantity of those chemicals at the facility:
  - Structural components of the facility;
  - Routine janitorial maintenance;
  - Employee use of foods, drugs, cosmetics, or other personal items containing the chemical; and,
  - Chemicals present in process water or non-contact cooling water as drawn from the environment or municipal sources, or use of chemicals present in air used either as compressed air or as part of combustion.
- Chemicals being manufactured, processed, or used in a facility's **laboratory** under the supervision of a technically qualified individual as defined in Section 720.3(ee) of Chapter 1 of Title 40 of CFR, these chemicals do not count toward a threshold quantity. This exemption does not apply to:
  - Specialty chemical production;
  - Manufacture, processing, or use of substances in pilot plant scale operations; and,
  - Activities conducted outside the laboratory.

35 USEPA's General Guidance for Risk Management Programs, Page 1-15

Exemptions and Exclusions (Sections 2770.4 and 2770.4.1)

Ammonia, when held by farmers and used as an agricultural nutrient, is exempt from all provisions of the CalARP Program. However, ammonia held for distribution at a farm would not be exempt.

Table 2 flammable chemicals, when used as a fuel by an end user, or held for sale as a fuel at a "retail facility" (as defined in Chapter 1), are excluded from all provisions of the CalARP Program. However flammable fuels used as a feedstock to produce something else or held for sale as fuel at a non-retail facility, such as a wholesale operation, terminal, or manufacturing site, are still covered.[36]

AA Perspective

What to look for to determine if a stationary source is a retail facility:

Verify that the sales to other retailers for the purpose of resale does not exceed 50% of total gross sales for the flammable fuels. This can be verified by examining a sufficient number of the quarterly Board of Equalization (BOE) State, Local and District Sales and Use Tax Return - Schedule T (Form BOE-531-T). This form will specify the dollar amounts of Gross Sales on line 1 and Sales to Other Retailers on line 4 for the reporting period. If line 4 exceeds 50% of the Gross Sales in line 1, the facility is probably NOT exempt. If the facility sells other petroleum products in addition to flammable gas fuels, you may have to look at the flammable gas sales separately if you think there's any question. This may involve reviewing the facility's internal sales accounting documentation as well.

List of Substances (Section 2770.5)

See Appendix A for a combined list of CalARP Program chemicals.

- Table 1 contains 77 toxic chemicals and respective threshold quantities, which were directly copied from the FedARP Program.
- Table 2 contains 63 flammable chemicals and respective threshold quantities, which were directly copied from the FedARP Program.
- Table 3 contains 275 toxic chemicals and respective threshold quantities. Many Table 3 chemicals also appear on Table 1 (i.e. they are "overlapping chemicals"), with different threshold quantities.

36 USEPA's Frequently Asked Questions for the CSISSFRRA, June 2000

Chapter 9. Other Requirements

Recordkeeping (Section 2775.1)

The facility shall maintain records supporting the implementation of this Program for 5 years unless otherwise provided in Chapter 6.

Audits (Section 2775.2)

To the extent possible, audits shall be fully coordinated with the Unified Program. There are differences between audits and inspections.

Audits are periodically performed **on the RMP** to review its adequacy. (Note "periodically" is not defined). Revisions to the RMP may be required, when necessary, to ensure compliance with the CalARP Program. An "audit" is not intended to imply an enforcement track, as described in Section 2775.4 of the CalARP Program regulations.[37]

Compliance Audits are self-audits performed by the facility, not by the AA. For information on Program 2 compliance audits, see Chapter 5 of this document. For information on Program 3 compliance audits, see Chapter 6 of this document.

Inspections (discussed below) are performed every 3 years and are for the purpose of ensuring **facility compliance** with the CalARP Program, as delineated in the facility's RMP. An "inspection" implies enforcement track, described in Section 2775.4 of the CalARP Program regulations[38], and can lead to penalties or other enforcement action if violations are documented.

RMP audits can be based on any of the following criteria related to the facility:

- Accident history;
- *Accident history of other facilities in the same industry;
- Quantity of chemicals present;
- Location of the facility with respect to public and environmental receptors;
- Presence of specific chemicals;
- Hazards identified in the RMP; and,

37 Angie Proboszcz, USEPA Region 9, personal communication.
38 Ibid.

- *Random selection.

Exemption from audits: A facility with an OSHA Star or Merit ranking shall be exempt from audits as noted ("") above.

Program Evaluation Notes

Evaluation Questions:
How frequently does the AA select stationary sources for audits?

What criteria are the audits based on?

Demonstration of Compliance:
(Note: Acceptable criteria include accident history of the stationary source; accident history of other stationary sources in the same industry; quantity of regulated substances present at the stationary source; location of the stationary source and its proximity to the public and environmental receptors; the presence of specific regulated substances; the hazards identified in the RMP; and a plan providing for neutral, random oversight.)

For audit purposes, the AA has access to the facility, supporting documentation, and any area where an accidental release could occur.

Based on the audit, the AA may issue the facility a written preliminary determination of necessary revisions to the facility's RMP to ensure that it meets the criteria of the CalARP Program. The preliminary determination shall include an explanation for the basis for the revisions, reflecting industry standards and guidelines (such as AIChE/CCPS guidelines and ASME and API standards) to the extent they are applicable, and shall include a timetable for their implementation.

Quick Reference for Audit Determination

Steps	Time-Frame	What
Preliminary Determination	After receiving the preliminary determination of RMP revisions and associated time-frame from the AA, the written response from the facility is due within 90 days. The AA can extend or diminish the time-frame as circumstances warrant.	Facility responds in writing to AA's preliminary determination. The response shall state that the facility will implement the revisions in accordance with the included time-frame or shall state that the facility rejects the revisions in whole or in part. The facility must justify each rejection and may include substitute revisions.
Final Determination	After providing the facility a chance to respond, the AA may issue the facility a final written notice of revisions for the RMP. The AA shall develop an implementation schedule for these revisions, in consultation with the facility.	The final determination may adopt or modify the revisions contained in the preliminary determination or may adopt or modify the facility's substitute revisions. A final determination that adopts a revision rejected by the facility shall include an explanation of the basis for the revision. A final determination that does not adopt a substitute revision shall include an explanation of the basis for finding such substitute revision unreasonable.
RMP Revision	RMP revisions must be made within 30 days of completion of the actions noted in the implementation schedule.	

The public shall have access to the preliminary determinations, responses, and final determinations in a manner consistent with the CalARP Program regulations.

Program Evaluation Notes

Evaluation Question:
What process does the AA use for necessary revisions?

Demonstration of Compliance:
(Note: process is identified in Section 2775.2)

Inspections (Section 2775.3)

Inspections are site visits to check on the accuracy of the RMP data and on the implementation of all CalARP Program elements. During inspections, the AA will probably review the documentation for Program elements, such as the PHA reports, operating procedures, maintenance schedules, process safety information, and training. *Unlike audits, which focus on the RMP* but may lead to determinations concerning needed improvements to the risk management program, *inspections will focus on the underlying risk management program itself.*

AAs determine how many inspections they need to conduct; however, each facility needs to be inspected *at least* once every 3 years. Audits may lead to inspections or inspections may be done separately. Depending on the focus of the inspection (all covered processes, a single process, or particular part of the risk management program) and the size of the facility, an inspection may take several hours to several weeks.[39]

CalARP Program inspections should be coordinated with the Unified Program.

Program Evaluation Notes

Evaluation Question:
Has the AA inspected every stationary source which is required to be registered pursuant to this chapter at least once every three years to determine whether the stationary source is in compliance with this chapter?

Enforcement (Section 2775.4)

The owner or operator of a facility who violates the statutes or regulations established for the CalARP Program may be subject to enforcement pursuant to the provisions in Article 2 of Chapter 6.95 of the HSC beginning with Section 25540. As of January 1, 2003, the administrative enforcement process is another tool available for the AA to use to ensure compliance. The procedures for this administrative action are outlined in HSC 25404.1.1, 25404.1.2 and 25540. Forms and further guidance on administrative enforcement can be found on Cal/EPA's Web site, http://www.calepa.ca.gov/CUPA/Publications/#EnforcementOrder.

Availability of Information to the Public (Section 2775.5)

Section 25531.1 of the HSC states that the public has "full and timely access to the to hazard assessment information, including offsite consequence analysis…" and that "the public has a right to participate in decisions about risk reduction options and measures to be taken to reduce the risk or severity of acutely hazardous material accidents." Section 25534.05(a)(4) states that the RMP required by the CalARP Program shall be available to the public pursuant to Section 114 of the federal Clean Air Act (CAA) (42 U.S.C. Section 7414(c)).

39 USEPA's General Guidance for Risk Management Programs, Page 10-3, with modification

In 1999, at the urging of several national security agencies, USEPA amended[40] Section 112(r) of the CAA (the FedARP Program statutes), placing limitations on the way RMPs, and the off-site consequence analysis information, are distributed and disseminated. The amended language further provided the caveat that "[N]othing in this subparagraph precludes a State from making available data on the off-site consequences of chemical release collected in accordance with State law."[41]

The handling of RMP information, and more specifically the off-site consequence analysis portion of the RMP, is currently an unsettled issue in California. The public's Right-to-Know about chemical risks in their community must be balanced against the risk these CalARP Program facilities present as potential targets for terrorists. It is suggested that AAs involve their local legal counsel for determining policies and procedures regarding the access and availability of RMPs to the public.

For additional guidance, consult the procedures USEPA and Department of Justice addressed in 40 CFR 1400, the RMP public review process discussed in Chapter 3, and Appendix E.

The disclosure of classified information by the Department of Defense or other federal agencies or contractors of such agencies shall be controlled by applicable laws, regulations, or executive orders concerning the release of classified information.

Program Evaluation Notes

Evaluation Questions:
How does the AA provide RMPs for public review?

How does the AA restrict the release of classified information?

Permit Content and Air Permitting Authority or OES Requirements (Section 2775.6)

As a reminder, the CalARP Program is the FedARP Program with additional state-specific requirements. The following paragraph discussing Title V air permits applies to Table 1 and Table 2 facilities; it does not apply to Table 3 facilities:

The FedARP Program (40 CFR Part 68) is an applicable requirement under the CAA Title V permit program and must be listed in a Title V air permit. A facility does not need a Title V air permit solely because they are subject to the FedARP Program. The local Air Pollution Control District (APCD) or Air Quality Management District (AQMD) can assist with Title V permit questions. It is recommended that AAs defer to these agencies as lead agencies for Title V issues

40 S. 880 (Inhofe), P.L. 106-40 amended CAA 42 U.S.C. 7412(r).
41 42 U.S.C. 1712(r)(7)(H)(x)(II)

and consult with Section 2775.6 of the CalARP Program regulations for the specific requirements.

The facility shall submit any additional relevant information requested by the AA, OES or the appropriate APCD or AQMD.

The AQMD or APCD shall notify the AA and the AA shall notify OES of enforcement actions taken pursuant to the CalARP Program.

Program Evaluation Notes

Evaluation Question:
Has there been any coordination between the CUPA and the local air pollution control district/air quality management district for any RMPs?

(This requirement is only for Table 1&2 facilities which are also subject to Part 70 or 71 of Title 40 CFR - Title V air permits. However, the local air districts may be willing to provide technical assistance for Table 3 substances as well and many air districts have air modeling expertise.)

Chapter 10. Local Program Evaluation

Dispute Resolution (Section 2780.1)

Disputes arising between the facility and an AA shall first be decided by the AA using dispute resolution procedures, established by the AA (as discussed in the "Program Evaluation Notes" below).

Program Evaluation Notes

Evaluation Question:
Has the AA established a procedure necessary to implement a dispute resolution process that contains the following elements?

(1) Provide that the owner or operator may initiate the dispute resolution process by serving the AA with prompt, written notice of a dispute;

(2) Identify the official(s) or other employee(s) of the AA who will resolve disputes arising under this Section;

(3) Set procedures and timetables for providing argument and supporting materials to the AA;

(4) Require that the AA render a written decision within 120 days after the owner or operator initiates the dispute resolution process; and,

(5) Use the CUPA dispute resolution process, if the AA is also a CUPA, providing that such process is consistent with the criteria in (a)(1) through (4) above.

The facility may appeal the decision of an AA, by written notice of appeal, to the Director of OES. See Section 2780.1 of the CalARP Program regulations for details.

Enforcement action may proceed while the dispute resolution process is taking place.

Administering Agency Compliance (Section 2780.2)

AAs shall comply with the CalARP Program regulations.

Maintenance of Administering Agency Authorization and Reporting (Section 2780.3)

Program Evaluation Notes

Evaluation Question:
In assessing the performance of an AA, OES shall consider the following:

(a) Effectiveness of the AA program to ensure stationary source participation.

(b) Effectiveness of the procedures for records management.

(c) Type and amount of technical assistance provided to stationary sources.

(d) Stationary source inspections which are conducted to ensure compliance with this program.

(e) The AA process for public participation.

(f) Other required program elements necessary to implement and manage this program.

(g) Comments from interested parties regarding the effectiveness of the local program that raise public safety issues.

(h) The impact of the CalARP Program in reducing/eliminating significant releases.

Coordination with the Unified Program (Section 2780.4)

OES shall consider, and periodically review, the elements discussed in the box above to support recommendations to the California Environmental Protection Agency, regarding local agency certification for the Unified Program.

Performance Audit Submission (Section 2780.5)

Every fiscal year (July 1- June 30), the AA shall annually conduct a *self-audit* of its CalARP Program activities. This audit is subject to the periodic review carried out pursuant to the Unified Program.

The annual audit report shall be based upon the previous fiscal year's activities and shall contain, but is not limited to, the following:

- An executive summary;

- A brief description of how the AA is meeting the requirements of the program as listed in Section 2780.3 and in the "Program Evaluation Notes" box above:
- Facilities/RMPs which have been audited;
- Facilities requested to develop RMPs;
- Facilities inspected;
- Facilities which have received public comments on RMPs.
- New or modified facilities;
- A summary of enforcement actions initiated by the AA identifying each facility;
- A summary of personnel needs for CalARP Program activities; and
- A list of Table 3 facilities exempted from the CalARP Program.

Administering Agency Performance Evaluations (Section 2780.6)

OES will participate in the CUPA evaluations, in conjunction with the Unified Program staff. OES will evaluate the AA's performance and ability to carry out the requirements of the CalARP Program. The standards to be reviewed are summarized in Sections 2780.3 and 2780.5 of the CalARP Program regulations.

Section 2780.6 of the CalARP Program regulations discusses the procedures to be followed by OES if OES determines the AA has not met the performance requirements.

OES Authority (Section 2780.7)

Nothing in the CalARP Program regulations shall limit the authority of OES pursuant to Section 25533(f) of HSC.

Chapter 11. Technical Assistance

Technical Assistance (Section 2785.1)

The facility must closely coordinate with the AA to ensure that appropriate technical standards are applied to the implementation of the CalARP Program.

The facility can request assistance from the AA to address compliance with the CalARP Program or safety issues regarding unfamiliar processes.

AAs may want to consider contacting the applicable local APCD/AQMD as a technical resource, especially for air modeling issues.

Program Evaluation Notes

Evaluation Question:
How does the AA coordinate with the owner or operator to ensure that appropriate technical standards are applied to the CalARP Program?

Demonstration of Compliance:
Keep copies of telephone logs, letters, e-mails and other correspondence in the facility file.

Evaluation Question:
How does the AA provide technical assistance to the owner or operator?

Demonstration of Compliance:
Examples include training, inspections, copies of letters and e-mails.

Appendices

Appendix A
CalARP Program Combined[1] List of Chemicals and Threshold Quantities (TQ)

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2[2] TQs in (lbs)	Table 3 TQs in (lbs)
Acetaldehyde	75-07-0		10,000	
Acetone cyanohydrin [3]	75-86-5			1,000
Acetone thiosemicarbazide	1752-30-3			1,000/10,000 [4]
Acetylene [Ethyne]	74-86-2		10,000	
Acrolein [2-Propenal]	107-02-8	5,000		500
Acrylamide	79-06-1			1,000/10,000 [4]
Acrylonitrile [2-Propenenitrile]	107-13-1	20,000		10,000
Acrylyl chloride [2-Propenoyl chloride]	814-68-6	5,000		100
Aldicarb	116-06-3			100/10,000 [4]
Aldrin	309-00-2			500/10,000 [4]
Allyl alcohol [2-Propen-l-ol]	107-18-6	15,000		1,000
Allylamine [2-Propen-l-amine]	107-11-9	10,000		500
Aluminum phosphide [5]	20859-73-8			500
Aminopterin	54-62-6			500/10,000 [4]
Amiton oxalate	3734-97-2			100/10,000 [4]
Ammonia (conc 1% or greater) [6]	7664-41-7			500
Ammonia (anhydrous) [6]	7664-41-7	10,000		500
Ammonia (conc 20% or greater) [6]	7664-41-7	20,000		
Ammonium hydroxide (ammonia conc 1% or greater) [6]	1336-21-6			500
Ammonium hydroxide (ammonia conc 20% or greater) [6]	1336-21-6	20,000		
Aniline [3]	62-53-3			1,000
Antimycin A	1397-94-0			1,000/10,000 [4]
ANTU	86-88-4			500/10,000 [4]
Arsenic pentoxide	1303-28-2			100/10,000 [4]
Arsenous oxide	1327-53-3			100/10,000 [4]
Arsenous trichloride	7784-34-1	15,000		500
Arsine	7784-42-1	1,000		100
Azinphos-ethyl	2642-71-9			100/10,000 [4]
Azinphos-methyl	86-50-0			10/10,000 [4]
Benzene, 1-(chloromethyl)-4-nitro-	100-14-1			500/10,000 [4]
Benzenearsonic acid	98-05-5			10/10,000 [4]
Benzimidazole, 4,5-dichloro-2-(trifluoromethyl)-	3615-21-2			500/10,000 [4]
Benzotrichloride [3]	98-07-7			100
Bicyclo[2.2.1] heptane-2-carbonitrile, 5-chloro- 6-((((methylamino) carbonyl)oxy)Imino)-, (1s-(1-alpha, 2-beta, 4-alpha, 5-alpha, 6E))-.	15271-41-7			500/10,000 [4]
Bis(Chloromethyl) ketone	534-07-6			10/10,000 [4]
Bitoscanate	4044-65-9			500/10,000 [4]
Boron trichloride [Borane, trichloro-]	10294-34-5	5,000		500
Boron trifluoride [Borane, trifluoro-]	7637-07-2	5,000		500
Boron trifluoride compound with methyl ether (1:1) [Boron, trifluoro [oxybis[metane]]]-, T-4-	353-42-4	15,000		1,000
Bromadiolone	28772-56-7			100/10,000 [4]
Bromine	7726-95-6	10,000		500
Bromotrifluorethylene [Ethene, bromotrifluoro-]	598-73-2		10,000	
1,3-Butadiene	106-99-0		10,000	
Butane	106-97-8		10,000	
1-Butene	106-98-9		10,000	
2-Butene	107-01-7		10,000	

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2[2] TQs in (lbs)	Table 3 TQs in (lbs)
Butene	25167-67-3		10,000	
2-Butene-cis	590-18-1		10,000	
2-Butene-trans [2-Butene, (E)]	624-64-6		10,000	
Cadmium oxide	1306-19-0			100/10,000 [4]
Cadmium stearate	2223-93-0			1,000/10,000 [4]
Calcium arsenate	7778-44-1			500/10,000 [4]
Camphechlor	8001-35-2			500/10,000 [4]
Cantharidin	56-25-7			100/10,000 [4]
Carbachol chloride	51-83-2			500/10,000 [4]
Carbamic acid, methyl-,o-(((2,4-dimethyl-1, 3-dithiolan-2-yl)methylene) amino)-.	26419-73-8			100/10,000 [4]
Carbofuran	1563-66-2			10/10,000 [4]
Carbon disulfide	75-15-0	20,000		10,000
Carbon oxysulfide [Carbon oxide sulfide (COS)]	463-58-1		10,000	
Chlorine	7782-50-5	2,500		100
Chlorine dioxide [Chlorine oxide (ClO2)]	10049-04-4	1,000		
Chlorine monoxide [Chlorine oxide]	7791-21-1		10,000	
Chlormequat chloride	999-81-5			100/10,000 [4]
Chloroacetic acid	79-11-8			100/10,000 [4]
Chloroform [Methane, trichloro-]	67-66-3	20,000		10,000
Chloromethyl ether [Methane, oxybis[chloro-]]	542-88-1	1,000		100
Chloromethyl methyl ether [Methane, chloromethoxy-]	107-30-2	5,000		100
Chlorophacinone	3691-35-8			100/10,000 [4]
1-Chloropropylene [1-Propene, 1-chloro-]	590-21-6		10,000	
2-Chloropropylene [1-Propene, 2-chloro-]	557-98-2		10,000	
Chloroxuron	1982-47-4			500/10,000 [4]
Chromic chloride	10025-73-7			1/10,000 [4]
Cobalt carbonyl	10210-68-1			10/10,000 [4]
Cobalt, ((2,2'-(1,2-ethanediylbis (nitrilomethylidyne)) bis(6-fluorophenolato))(2-)-N,N',O,O')-.	62207-76-5			100/10,000 [4]
Colchicine	64-86-8			10/10,000 [4]
Coumaphos	56-72-4			100/10,000 [4]
Coumatetralyl	5836-29-3			500/10,000 [4]
Cresol, o-	95-48-7			1,000/10,000 [4]
Crimidine	535-89-7			100/10,000 [4]
Crotonaldehyde [2-Butenal]	4170-30-3	20,000		1,000
Crotonaldehyde, (E)- [2-Butenal, (E)-]	123-73-9	20,000		1,000
Cyanogen bromide	506-68-3			500/10,000 [4]
Cyanogen iodide	506-78-5			1,000/10,000 [4]
Cyanogen [Ethanedinitrile]	460-19-5		10,000	
Cyanogen chloride	506-77-4	10,000		
Cyanuric fluoride	675-14-9			100
Cycloheximide	66-81-9			100/10,000 [4]
Cyclohexylamine [Cyclohexanamine]	108-91-8	15,000		10,000
Cyclopropane	75-19-4		10,000	
Decaborane(14)	17702-41-9			500/10,000 [4]
Dialifor	10311-84-9			100/10,000 [4]
Diborane	19287-45-7	2,500		100
Dichlorosilane [Silane, dichloro-]	4109-96-0		10,000	
Diepoxybutane [3]	1464-53-5			500
Difluoroethane [Ethane, 1,1-difluoro-]	75-37-6		10,000	
Digitoxin	71-63-6			100/10,000 [4]
Digoxin	20830-75-5			10/10,000 [4]
Dimethoate	60-51-5			500/10,000 [4]
Dimethylamine [Methanamine, N-methyl-]	124-40-3		10,000	

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2[2] TQs in (lbs)	Table 3 TQs in (lbs)
Dimethyldichlorosilane [Silane, dichlorodimethyl-]	75-78-5	5,000		500
1,1-Dimethylhydrazine [Hydrazine,1,1-dimethyl-]	57-14-7	15,000		1,000
Dimethyl-p-phenylenediamine	99-98-9			10/10,000 [4]
Dimethyl sulfate [3]	77-78-1			500
2,2-Dimethylpropane [Propane, 2,2-dimethyl-]	463-82-1		10,000	
Dimetilan	644-64-4			500/10,000 [4]
Dinitrocresol	534-52-1			10/10,000 [4]
Dinoseb	88-85-7			100/10,000 [4]
Dinoterb	1420-07-1			500/10,000 [4]
Diphacinone	82-66-6			10/10,000 [4]
Disulfoton [3]	298-04-4			500
Dithiazanine iodide	514-73-8			500/10,000 [4]
Dithiobiuret	541-53-7			100/10,000 [4]
Emetine, dihydrochloride	316-42-7			1/10,000 [4]
Endosulfan	115-29-7			10/10,000 [4]
Endothion	2778-04-3			500/10,000 [4]
Endrin	72-20-8			500/10,000 [4]
Epichlorohydrin [Oxirane, (chloromethyl)-]	106-89-8	20,000		1,000
EPN	2104-64-5			100/10,000 [4]
Ergocalciferol	50-14-6			1,000/10,000 [4]
Ergotamine tartrate	379-79-3			500/10,000 [4]
Ethane	74-84-0		10,000	
Ethyl acetylene [1-Butyne]	107-00-6		10,000	
Ethylamine [Ethanamine]	75-04-7		10,000	
Ethyl chloride [Ethane, chloro-]	75-00-3		10,000	
Ethylene [Ethene]	74-85-1		10,000	
Ethylenediamine [1,2-Ethanediamine]	107-15-3	20,000		10,000
Ethylene fluorohydrin	371-62-0			10
Ethyleneimine [Aziridine]	151-56-4	10,000		500
Ethylene oxide [Oxirane]	75-21-8	10,000		1,000
Ethyl ether [Ethane, 1,1'-oxybis-]	60-29-7		10,000	
Ethyl mercaptan [Ethanethiol]	75-08-1		10,000	
Ethyl nitrite [Nitrous acid, ethyl ester]	109-95-5		10,000	
Fenamiphos	22224-92-6			10/10,000 [4]
Fluenetil	4301-50-2			100/10,000 [4]
Fluorine	7782-41-4	1,000		500
Fluoroacetamide	640-19-7			100/10,000 [4]
Fluoroacetic acid	144-49-0			10/10,000 [4]
Fluoroacetyl chloride	359-06-8			10
Fluorouracil	51-21-8			500/10,000 [4]
Formaldehyde (including solutions) [6]	50-00-0	15,000		500
Formetanate hydrochloride	23422-53-9			500/10,000 [4]
Formparanate	17702-57-7			100/10,000 [4]
Fuberidazole	3878-19-1			100/10,000 [4]
Furan	110-00-9	5,000		500
Gallium trichloride	13450-90-3			500/10,000 [4]
Hydrazine	302-01-2	15,000		1,000
Hydrochloric acid (conc 37% or greater)	7647-01-0	15,000		
Hydrocyanic acid	74-90-8	2,500		100
Hydrogen chloride (gas / anhydrous)	7647-01-0	5,000		500
Hydrogen fluoride	7664-39-3	1,000		100
Hydrofluoric acid (conc 1% or greater) [6]	7664-39-3			100
Hydrofluoric acid (conc 50% or greater)	7664-39-3	1,000		
Hydrogen selenide	7783-07-5	500		10
Hydrogen	1333-74-0		10,000	

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2[2] TQs in (lbs)	Table 3 TQs in (lbs)
Hydrogen sulfide	7783-06-4	10,000		500
Hydroquinone [7]	123-31-9			500/10,000 [4]
Iron, pentacarbonyl- [Iron carbonyl (Fe(CO)5), (TB-5-11)-]	13463-40-6	2,500		100
Isobenzan	297-78-9			100/10,000 [4]
Isobutane [Propane, 2-methyl]	75-28-5		10,000	
Isobutyronitrile [Propanenitrile, 2-methyl-]	78-82-0	20,000		1,000
Isocyanic acid, 3,4-dichlorophenyl ester	102-36-3			500/10,000 [4]
Isodrin	465-73-6			100/10,000 [4]
Isopentane [Butane, 2-methyl-]	78-78-4		10,000	
Isophorone diisocyanate	4098-71-9			100
Isoprene [1,3-Butadinene, 2-methyl-]	78-79-5		10,000	
Isopropylamine [2-Propanamine]	75-31-0		10,000	
Isopropyl chloride [Propane, 2-chloro-]	75-29-6		10,000	
Isopropyl chloroformate [Carbonochloridic acid, 1-methylethyl ester]	108-23-6	15,000		1,000
Leptophos	21609-90-5			500/10,000 [4]
Lewisite [3]	541-25-3			10
Lindane	58-89-9			1,000/10,000 [4]
Lithium hydride [5]	7580-67-8			100
Malononitrile	109-77-3			500/10,000 [4]
Manganese, tricarbonyl methylcyclopentadienyl [3]	12108-13-3			100
Mechlorethamine [3]	51-75-2			10
Mercuric acetate	1600-27-7			500/10,000 [4]
Mercuric chloride	7487-94-7			500/10,000 [4]
Mercuric oxide	21908-53-2			500/10,000 [4]
Methacrylonitrile [2-Propenenitrile, 2-methyl-]	126-98-7	10,000		500
Methacryloyl chloride	920-46-7			100
Methacryloyloxyethyl isocyanate	30674-80-7			100
Methamidophos	10265-92-6			100/10,000 [4]
Methane	74-82-8		10,000	
Methanesulfonyl fluoride	558-25-8			1,000
Methidathion	950-37-8			500/10,000 [4]
Methiocarb	2032-65-7			500/10,000 [4]
Methomyl	16752-77-5			500/10,000 [4]
Methoxyethylmercuric acetate	151-38-2			500/10,000 [4]
Methylamine [Methanamine]	74-89-5		10,000	
Methyl bromide	74-83-9			1,000
2-Methyl-1-butene	563-46-2		10,000	
3-Methyl-1-butene	563-45-1		10,000	
Methyl chloride [Methane, chloro-]	74-87-3	10,000		
Methyl 2-chloroacrylate	80-63-7			500
Methyl chloroformate [Carbonochloridic acid, methylester]	79-22-1	5,000		500
Methyl ether [Methane, oxybis-]	115-10-6		10,000	
Methyl formate [Formic acid, methyl ester]	107-31-3		10,000	
Methyl hydrazine [Hydrazine, methyl-]	60-34-4	15,000		500
Methyl isocyanate [Methane, isocyanato-]	624-83-9	10,000		500
Methyl isothiocyanate [5]	556-61-6			500
Methyl mercaptan [Methanethiol]	74-93-1	10,000		500
Methylmercuric Dicyanamide	502-39-6			500/10,000 [4]
Methyl phosphonic dichloride [5]	676-97-1			100
2-Methylpropene [1-Propene, 2-methyl-]	115-11-7		10,000	
Methyl thiocyanate [Thiocyanic acid, methyl ester]	556-64-9	20,000		10,000
Methyltrichlorosilane [Silane, trichloromethyl-]	75-79-6	5,000		500
Methyl vinyl ketone	78-94-4			10
Metolcarb	1129-41-5			100/10,000 [4]

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2[2] TQs in (lbs)	Table 3 TQs in (lbs)
Mexacarbate	315-18-4			500/10,000 [4]
Mitomycin C	50-07-7			500/10,000 [4]
Monocrotophos	6923-22-4			10/10,000 [4]
Muscimol	2763-96-4			500/10,000 [4]
Mustard gas [3]	505-60-2			500
Nickel carbonyl	13463-39-3	1,000		1
Nicotine sulfate	65-30-5			100/10,000 [4]
Nitric acid [1] (conc 1% or greater)	7697-37-2			1,000
Nitric acid (conc 80% or greater)	7697-37-2	15,000		
Nitric oxide [Nitrogen oxide (NO)]	10102-43-9	10,000		100
Nitrobenzene [3]	98-95-3			10,000
Nitrogen dioxide	10102-44-0			100
Norbormide	991-42-4			100/10,000 [4]
Oleum (Fuming H_2SO_4) [Sulfuric acid, mixture with SO_3] [3]	8014-95-7	10,000		
Organorhodium complex (PMN-82-147)	MIXTURE			10/10,000 [4]
Ouabain	630-60-4			100/10,000 [4]
Oxamyl	23135-22-0			100/10,000 [4]
Ozone	10028-15-6			100
Paraquat dichloride	1910-42-5			10/10,000 [4]
Paraquat methosulfate	2074-50-2			10/10,000 [4]
Parathion-methyl	298-00-0			100/10,000 [4]
Paris Green	12002-03-8			500/10,000 [4]
Pentaborane	19624-22-7			500
Pentadecylamine	2570-26-5			100/10,000 [4]
1,3-Pentadinene	504-60-9		10,000	
Pentane	109-66-0		10,000	
1-Pentene	109-67-1		10,000	
2-Pentene, (E)-	646-04-8		10,000	
2-Pentene, (Z)-	627-20-3		10,000	
Peracetic acid [Ethaneperoxoic acid]	79-21-0	10,000		500
Perchloromethylmercaptan [Methanesulfenyl chloride, trichloro-]	594-42-3	10,000		500
Phenol	108-95-2			500/10,000 [4]
Phenol, 2,2'-thiobis(4-chloro-6-methyl)-	4418-66-0			100/10,000 [4]
Phenol, 3-(1-methylethyl)-, methylcarbamate	64-00-6			500/10,000 [4]
Phenoxarsine, 10, 10' - oxydi-	58-36-6			500/10,000 [4]
Phenyl dichloroarsine [3]	696-28-6			500
Phenylhydrazine hydrochloride	59-88-1			1,000/10,000 [4]
Phenylmercury acetate	62-38-4			500/10,000 [4]
Phenylsilatrane	2097-19-0			100/10,000 [4]
Phenylthiourea	103-85-5			100/10,000 [4]
Phorate [3]	298-02-2			10
Phosacetim	4104-14-7			100/10,000 [4]
Phosfolan	947-02-4			100/10,000 [4]
Phosgene [Carbonic dichloride]	75-44-5	500		10
Phosmet	732-11-6			10/10,000 [4]
Phosphine	7803-51-2	5,000		500
Phosphonothioic acid, methyl-, S-(2-(bis(1-methylethyl)amino)ethyl) O-ethyl ester. [3]	50782-69-9			100
Phosphorus [5]	7723-14-0			100
Phosphorus oxychloride [Phosphoryl chloride]	10025-87-3	5,000		500
Phosphorus pentachloride [5]	10026-13-8			500
Phosphorus trichloride [Phosphorous trichloride]	7719-12-2	15,000		1,000
Physostigmine	57-47-6			100/10,000 [4]
Physostigmine, salicylate (1:1)	57-64-7			100/10,000 [4]

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2[2] TQs in (lbs)	Table 3 TQs in (lbs)
Picrotoxin	124-87-8			500/10,000 [4]
Piperidine	110-89-4	15,000		1,000
Potassium arsenite	10124-50-2			500/10,000 [4]
Potassium cyanide [5]	151-50-8			100
Potassium silver cyanide [5]	506-61-6			500
Promecarb	2631-37-0			500/10,000 [4]
Propadiene [1,2-Propadiene]	463-49-0		10,000	
Propane	74-98-6		10,000	
Propargyl bromide	106-96-7			10
Propiolactone, beta- [3]	57-57-8			500
Propionitrile [Propanenitrile]	107-12-0	10,000		500
Propiophenone, 4-amino-	70-69-9			100/10,000 [4]
Propyl chloroformate [Carbonochloridic acid, propylester]	109-61-5	15,000		500
Propylene [1-Propene]	115-07-1		10,000	
Propylene oxide [Oxirane, methyl-]	75-56-9	10,000		10,000
Propyleneimine [Aziridine, 2-methyl-]	75-55-8	10,000		10,000
Propyne [1-Propyne]	74-99-7		10,000	
Prothoate	2275-18-5			100/10,000 [4]
Pyrene	129-00-0			1,000/10,000 [4]
Pyridine, 4-amino-	504-24-5			500/10,000 [4]
Pyridine, 4-nitro-, 1-oxide	1124-33-0			500/10,000 [4]
Pyriminil	53558-25-1			100/10,000 [4]
Salcomine	14167-18-1			500/10,000 [4]
Sarin [3]	107-44-8			10
Selenious acid	7783-00-8			1,000/10,000 [4]
Semicarbazide hydrochloride	563-41-7			1,000/10,000 [4]
Silane	7803-62-5		10,000	
Sodium arsenate	7631-89-2			1,000/10,000 [4]
Sodium arsenite	7784-46-5			500/10,000 [4]
Sodium azide (Na (N3)) [5]	26628-22-8			500
Sodium cacodylate	124-65-2			100/10,000 [4]
Sodium cyanide (Na (CN)) [5]	143-33-9			100
Sodium fluoroacetate	62-74-8			10/10,000 [4]
Sodium selenate	13410-01-0			100/10,000 [4]
Sodium selenite	10102-18-8			100/10,000 [4]
Sodium tellurite	10102-20-2			500/10,000 [4]
Stannane, acetoxytriphenyl-	900-95-8			500/10,000 [4]
Strychnine	57-24-9			100/10,000 [4]
Strychnine sulfate	60-41-3			100/10,000 [4]
Sulfur dioxide	7446-09-5			500
Sulfur dioxide (anhydrous)	7446-09-5	5,000		
Sulfuric acid [8]	7664-93-9			1,000
Sulfur tetrafluoride [Sulfur fluoride (SF4), (T-4)-]	7783-60-0	2,500		100
Sulfur trioxide [5]	7446-11-9	10,000		100
Tabun [3]	77-81-6			10
Tellurium hexafluoride	7783-80-4			100
Tetrafluoroethylene [Ethene, tetrafluoro-]	116-14-3		10,000	
Tetramethyllead [Plumbane, tetramethyl-]	75-74-1	10,000		100
Tetramethylsilane [Silane, tetramethyl-]	75-76-3		10,000	
Tetranitromethane [Methane, tetranitro-]	509-14-8	10,000		500
Thallium sulfate	10031-59-1			100/10,000 [4]
Thallous carbonate	6533-73-9			100/10,000 [4]
Thallous chloride	7791-12-0			100/10,000 [4]
Thallous malonate	2757-18-8			100/10,000 [4]
Thallous sulfate	7446-18-6			100/10,000 [4]

Chemical Name	CAS Number	Table 1 TQs in (lbs)	Table 2[2] TQs in (lbs)	Table 3 TQs in (lbs)
Thiocarbazide	2231-57-4			1,000/10,000 [4]
Thiofanox	39196-18-4			100/10,000 [4]
Thiosemicarbazide	79-19-6			100/10,000 [4]
Thiourea, (2-Chlorophenyl)-	5344-82-1			100/10,000 [4]
Thiourea, (2-Methylphenyl)-	614-78-8			500/10,000 [4]
Titanium tetrachloride [Titanium chloride (TiCl4) (T-4)-]	7550-45-0	2,500		100
Toluene 2,4-diisocyanate [Benzene, 2,4-diisocyanato-1-methyl-] [3]	584-84-9	10,000		500
Toluene 2,6-diisocyanate [Benzene, 1,3-diisocyanato-2-methyl-] [3]	91-08-7	10,000		100
Toluene diisocyanate (unspecified isomer) [Benzene, 1,3-diisocyanatomethyl-] [3]	26471-62-5	10,000		
Triamiphos	1031-47-6			500/10,000 [4]
Trichloro(chloromethyl)silane	1558-25-4			100
Trichloro(dichlorophenyl)silane	27137-85-5			500
Trichlorosilane [Silane, trichloro-]	10025-78-2		10,000	
Triethoxysilane	998-30-1			500
Trifluorochloroethylene [Ethene, chlorotrifluoro-]	79-38-9		10,000	
Trimethylamine [Methanamine, N,N-dimethyl-]	75-50-3		10,000	
Trimethylchlorosilane [Silane, chlorotrimethyl-]	75-77-4	10,000		1,000
Trimethylolpropane phosphite	824-11-3			100/10,000 [4]
Trimethyltin chloride	1066-45-1			500/10,000 [4]
Triphenyltin chloride	639-58-7			500/10,000 [4]
Tris(2-chloroethyl)amine [3]	555-77-1			100
Valinomycin	2001-95-8			1,000/10,000 [4]
Vanadium pentoxide	1314-62-1			100/10,000 [4]
Vinyl acetate monomer [Acetic acid ethenyl ester]	108-05-4	15,000		1,000
Vinyl acetylene [1-Buten-3-yne]	689-97-4		10,000	
Vinyl chloride [Ethene, chloro-]	75-01-4		10,000	
Vinyl ethyl ether [Ethene, ethoxy-]	109-92-2		10,000	
Vinyl fluoride [Ethene, fluoro-]	75-02-5		10,000	
Vinylidene chloride [Ethene, 1,1-dichloro-]	75-35-4		10,000	
Vinylidene fluoride [Ethene, 1,1-difluoro-]	75-38-7		10,000	
Vinyl methyl ether [Ethene, methoxy-]	107-25-5		10,000	
Warfarin	81-81-2			500/10,000 [4]
Warfarin sodium	129-06-6			100/10,000 [4]
Xylylene dichloride	28347-13-9			100/10,000 [4]
Zinc, dichloro(4,4-dimethyl-5((((methylamino) carbonyl)oxy)Imino) pentanenitrile)-, (T-4)-.	58270-08-9			100/10,000 [4]
Zinc phosphide [5]	1314-84-7			500

1 Consult Section 2770.5 of the CalARP Program regulations (Tables 1, 2, and 3) for the official chemical listings. Consult Sections 2770.2, 2770.4, and 2770.4.1, for specific exemptions and exclusions.

2 Flammable substances when used as a fuel or held for sale as a fuel at a retail facility are excluded from the CalARP Program (Section 2770.4.1).

3 Substances that failed the evaluation pursuant to Section 25532(g)(2) of the HSC but remain listed pursuant to potential health impacts. The exemption in Section 2770.2(b)(1)(B) regarding portions of a process where these regulated substances are handled at partial pressures below 10 mm Hg does not apply to these substances.

4 These extremely hazardous substances are solids. These substances are regulated at the lower listed threshold if: 1) the chemical is in powdered form with a particle size of less than 100 microns; or 2) if handled in solution or in molten form; or 3) the substance has an NFPA rating for reactivity of 2, 3, or 4. If the above 3 conditions do not apply, the threshold for each of these substances is 10,000 pounds. (Note: The 10,000 pound threshold for these substances reflects the former RMPP program. OES will consider initiating a regulatory change to remove the 10,000 pound thresholds, in accordance with HSC 25532(g)(2)(A)(iii).) In addition, the exemption in Section 2770.2(b)(1)(B) regarding portions of a process where these regulated substances are handled at partial pressures below 10 mm Hg does not apply to these substances.

5 These extremely hazardous substances are reactive solids. The exemption in Section 2770.2(b)(1)(B) regarding portions of a process where these regulated substances are handled at partial pressures below 10 mm Hg does not apply to these substances.

6 Appropriate synonyms or mixtures of extremely hazardous substances with the same CAS number are also regulated, e.g., formalin. In addition, the listing of ammonia includes anhydrous and aqueous forms of ammonia pursuant to Section 25532(g)(2). Consult USEPA's "CAA Section 112(r) Frequently Asked Questions," March 2003, Questions II. 20 (List Rule Response to Comments, page 50, Docket A 91-74), II. 22, II. 36, and II. 37 for further discussion on ammonium hydroxide and formaldehyde.

7 Hydroquinone is exempt in crystalline form.

8 Sulfuric acid fails the evaluation pursuant to Section 25532(g)(2) of the HSC but remains listed as a Regulated Substance only under the following conditions:

- If concentrated with greater than 100 pounds of sulfur trioxide or the acid meets the definition of oleum. (The Table 3 threshold for sulfur trioxide is 100 pounds.) (The Table 1 threshold for oleum is 10,000 pounds.)
- If in a container with flammable hydrocarbons (flash point < 73^0 F).

Appendix B
CalARP Program Toxic Endpoint Table

The following Toxic Endpoint (TE) Table should be used for all toxic substances listed in Section 2770.5, Table 1 and Table 3, of the CalARP Program. Where USEPA provided a TE for the FedARP Program, that TE is listed in the Table below. All other TEs were provided by the Office of Environmental Health Hazard Assessment (OEHHA), using preexisting toxicity values.

Table of Toxic Endpoints

[to be used as described in Section 2750.2 of the CalARP Program regulations]

Chemical Name	CAS Number	Toxic Endpoint (TE)		Basis for TE
		TE in (gm/m^3 or mg/l)	TE in (ppm) [1]	
Acetone Cyanohydrin	75-86-5	0.012	3	USEPA LOC [2]
Acetone Thiosemicarbazide	1752-30-3	0.1		USEPA LOC [2]
Acrolein [2-Propenal]	107-02-8	0.0011	0.5	USEPA ARP Program[3]
Acrylamide	79-06-1	0.11		USEPA LOC [2]
Acrylonitrile [2- Propenenitrile]	107-13-1	0.076	35	USEPA ARP Program[3]
Acrylyl Chloride [2-Propenoyl Chloride]	814-68-6	0.00090	0.2	USEPA ARP Program[3]
Aldicarb	116-06-3	0.0003		USEPA LOC [2]
Aldrin	309-00-2	0.002		IDLH95/10 [2]
Allyl Alcohol [2-Propen-1-ol]	107-18-6	0.036	15	USEPA ARP Program[3]
Allylamine [2-Propen-1-amine]	107-11-9	0.0032	1	USEPA ARP Program[3]
Aluminum Phosphide	20859-73-8	0.02		USEPA LOC [2]
Aminopterin	54-62-6	0.025		USEPA LOC [2]
Amiton Oxalate	3734-97-2	0.003		USEPA LOC [2]
Ammonia (anhydrous) or (aqueous), or Ammonium Hydroxide	7664-41-7	0.14	200	USEPA ARP Program[3]
Aniline	62-53-3	0.038	10	USEPA LOC [2]
Antimycin A	1397-94-0	0.0018		USEPA LOC [2]
ANTU	86-88-4	0.01		USEPA LOC [2]
Arsenic Pentoxide	1303-28-2	0.0005 as As		IDLH95/10 [2]
Arsenous Oxide	1327-53-3	0.0005 as As		IDLH95/10 [2]
Arsenous Trichloride	7784-34-1	0.010	1	USEPA ARP Program[3]
Arsine	7784-42-1	0.0019	0.6	USEPA ARP Program[3]
Azinophos-Ethyl	2642-71-9	0.0039		USEPA LOC [2]
Azinophos-Methyl	86-50-0	0.001		IDLH95/10 [2]
Benzene, 1-(Chloromethyl)-4-Nitro-	100-14-1	0.028		USEPA LOC [2]
Benzenearsonic Acid	98-05-5	0.00027		USEPA LOC [2]
Benzimidazole, 4,5-Dichloro-2-(Trifluoromethyl)-	3615-21-2	0.013		USEPA LOC [2]
Benzotrichloride	98-07-7	0.0007	0.1	USEPA LOC [2]
Bicyclo[2.2.1] Heptane-2-Carbonitrile, 5-Chloro- 6-((((Methylamino) Carbonyl)Oxy)Imino)-, (1s-(1-alpha, 2-beta, 4-alpha, 5-alpha, 6E))-	15271-41-7	0.019		USEPA LOC [2]
Bis(Chloromethyl) Ketone	534-07-6	0.00027		USEPA LOC [2]
Bitoscanate	4044-65-9	0.02		USEPA LOC [2]
Boron Trichloride [Borane, Trichloro-]	10294-34-5	0.010	2	USEPA ARP Program[3]
Boron Trifluoride [Borane, Trifluoro-]	7637-07-2	0.028	10	USEPA ARP Program[3]
Boron Trifluoride compound w/ Methyl Ether (1:1) [Boron, Trifluoro [oxybis[methane]]]-,T-4-	353-42-4	0.023	5	USEPA ARP Program[3]
Bromadiolone	28772-56-7	0.001		USEPA LOC [2]

Chemical Name	CAS Number	Toxic Endpoint (TE)		Basis for TE
		TE in (gm/m^3 or mg/l)	TE in (ppm) [1]	
Bromine	7726-95-6	0.0065	1	USEPA ARP Program[3]
Cadmium Oxide	1306-19-0	0.004		USEPA LOC [2]
Cadmium Sterate	2223-93-0	0.0013		USEPA LOC [2]
Calcium Arsenate	7778-44-1	0.0005 as As		IDLH95/10 [2]
Camphechlor	8001-35-2	0.02		USEPA LOC [2]
Cantharidin	56-25-7	0.0043		USEPA LOC [2]
Carbachol Chloride	51-83-2	0.015		USEPA LOC [2]
Carbamic Acid, Methyl-,o-(((2,4-Dimethyl-1, 3-Dithiolan-2-yl) Methylene)Amino)-	26419-73-8	0.001		USEPA LOC [2]
Carbofuran	1563-66-2	0.00043		USEPA LOC [2]
Carbon Disulfide	75-15-0	0.16	50	USEPA ARP Program[3]
Chlorine	7782-50-5	0.0087	3	USEPA ARP Program[3]
Chlorine Dioxide [Chlorine Oxide (ClO2)]	10049-04-4	0.0028	1	USEPA ARP Program[3]
Chlormequat Chloride	999-81-5	0.007		USEPA LOC [2]
Chloroacetic Acid	79-11-8	0.0018		USEPA LOC [2]
Chloroform [Methane, Trichloro-]	67-66-3	0.49	100	USEPA ARP Program[3]
Chloromethyl Ether [Methane, Oxybis[Chloro-]]	542-88-1	0.00025	0.05	USEPA ARP Program[3]
Chloromethyl Methyl Ether [Methane, Chloromethoxy-]	107-30-2	0.0018	0.6	USEPA ARP Program[3]
Chlorophacinone	3691-35-8	0.001		USEPA LOC [2]
Chloroxuron	1982-47-4	0.01		USEPA LOC [2]
Chromic Chloride	10025-73-7	0.0005 as CrIII		TLV96 [2]
Cobalt Carbonyl	10210-68-1	0.00027		USEPA LOC [2]
Cobalt, ((2,2'-(1,2-Ethanediylbis (Nitrilomethylidyne)) Bis(6-Fluorophenolato))(2-)-N,N',O,O')-	62207-76-5	0.003		USEPA LOC [2]
Colchicine	64-86-8	0.0009		USEPA LOC [2]
Coumaphos	56-72-4	0.003		USEPA LOC [2]
Coumatetralyl	5836-29-3	0.0165		USEPA LOC [2]
Cresol, o-	95-48-7	0.11		USEPA LOC [2]
Crimidine	535-89-7	0.0012		USEPA LOC [2]
Crotonaldehyde [2-Butenal]	4170-30-3	0.029	10	USEPA ARP Program[3]
Crotonaldehyde, (E)- [2-Butenal, (E)-]	123-73-9	0.029	10	USEPA ARP Program[3]
Cyanogen Bromide	506-68-3	0.0025 as CN		IDLH95/10 [2]
Cyanogen Chloride	506-77-4	0.030	12	USEPA ARP Program[3]
Cyanogen Iodide	506-78-5	0.0025 as CN		IDLH95/10 [2]
Cyanuric Fluoride	675-14-9	0.00017	0.03	USEPA LOC [2]
Cycloheximide	66-81-9	0.002		USEPA LOC [2]
Cyclohexylamine [Cyclohexanamine]	108-91-8	0.16	39	USEPA ARP Program[3]
Decaborane (14)	17702-41-9	0.002		IDLH95/10 [2]
Dialifor	10311-84-9	0.005		USEPA LOC [2]
Diborane	19287-45-7	0.0011	1	USEPA ARP Program[3]
Diepoxybutane	1464-53-5	0.0035	1	USEPA LOC [2]
Digitoxin	71-63-6	0.00018		USEPA LOC [2]
Digoxin	20830-75-5	0.0002		USEPA LOC [2]
Dimethoate	60-51-5	0.03		USEPA LOC [2]
Dimethyldichlorosilane [Silane, dichlorodimethyl-]	75-78-5	0.026	5	USEPA ARP Program[3]
1,1-Dimethylhydrazine [Dimethylhydrazine] [Hydrazine,1,1-dimethyl-]	57-14-7	0.012	5	USEPA ARP Program[3]

Chemical Name	CAS Number	Toxic Endpoint (TE)		Basis for TE
		TE in (gm/m^3 or mg/l)	TE in (ppm) [1]	
Dimethyl-p-Phenylenediamine	99-98-9	0.00013		USEPA LOC [2]
Dimethyl Sulfate	77-78-1	0.004	0.7	IDLH95/10 [2]
Dimetilan	644-64-4	0.025		USEPA LOC [2]
Dinitrocresol	534-52-1	0.0005		USEPA LOC [2]
Dinoseb	88-85-7	0.0045		USEPA LOC [2]
Dinoterb	1420-07-1	0.025		USEPA LOC [2]
Diphacinone	82-66-6	0.0009		USEPA LOC [2]
Disulfoton	298-04-4	0.002	0.2	USEPA LOC [2]
Dithiazanine Iodide	514-73-8	0.02		USEPA LOC [2]
Dithiobiuret	541-53-7	0.005		USEPA LOC [2]
Emetine, Dihydrochloride	316-42-7	0.00001		USEPA LOC [2]
Endosulfan	115-29-7	0.0008		USEPA LOC [2]
Endothion	2778-04-3	0.017		USEPA LOC [2]
Endrin	72-20-8	0.0002		IDLH95/10 [2]
Epichlorohydrin [(Chloromethyl)Oxirane]	106-89-8	0.076	20	USEPA ARP Program[3]
EPN	2104-64-5	0.0005		IDLH95/10 [2]
Ergocalciferol	50-14-6	0.04		USEPA LOC [2]
Ergotamine Tartrate	379-79-3	0.01		USEPA LOC [2]
Ethylenediamine [1,2-Ethanediamine]	107-15-3	0.49	200	USEPA ARP Program[3]
Ethylene Fluorohydrin	371-62-0	0.00007	0.03	USEPA LOC [2]
Ethyleneimine [Aziridine]	151-56-4	0.018	10	USEPA ARP Program[3]
Ethylene Oxide [Oxirane]	75-21-8	0.090	50	USEPA ARP Program[3]
Fenamiphos	22224-92-6	0.0009		USEPA LOC [2]
Fluenetil	4301-50-2	0.006		USEPA LOC [2]
Fluorine	7782-41-4	0.0039	2.5	USEPA ARP Program[3]
Fluoroacetamide	640-19-7	0.0058		USEPA LOC [2]
Fluoroacetic Acid	144-49-0	0.00047		USEPA LOC [2]
Fluoroacetyl Chloride	359-06-8	0.01	2.5	USEPA LOC [2]
Fluorouracil	51-21-8	0.019		USEPA LOC [2]
Formaldehyde	50-00-0	0.012	10	USEPA ARP Program[3]
Formetanate Hydrochloride	23422-53-9	0.018		USEPA LOC [2]
Formparanate	17702-57-7	0.0072		USEPA LOC [2]
Fuberidazole	3878-19-1	0.0033		USEPA LOC [2]
Furan	110-00-9	0.0012	0.4	USEPA ARP Program[3]
Gallium Trichloride	13450-90-3	0.032		USEPA LOC [2]
Hydrazine	302-01-2	0.011	8	USEPA ARP Program[3]
Hydrochloric Acid or Hydrogen Chloride	7647-01-0	0.030	20	USEPA ARP Program[3]
Hydrocyanic Acid	74-90-8	0.011	10	USEPA ARP Program[3]
Hydrofluoric Acid or Hydrogen Fluoride	7664-39-3	0.016	20	USEPA ARP Program[3]
Hydrogen Selenide	7783-07-5	0.00066	0.2	USEPA ARP Program[3]
Hydrogen Sulfide	7783-06-4	0.042	30	USEPA ARP Program[3]
Hydroquinone	123-31-9	0.005		IDLH95/10 [2]
Iron, Pentacarbonyl- [Iron carbonyl (Fe(CO)5), (TB-5-11)-]	13463-40-6	0.00044	0.05	USEPA ARP Program[3]
Isobenzan	297-78-9	0.001		USEPA LOC [2]
Isobutyronitrile [Propanenitrile, 2-Methyl-]	78-82-0	0.14	50	USEPA ARP Program[3]
Isocyanic Acid, 3,4-Dichorophenyl Ester	102-36-3	0.014		USEPA LOC [2]
Isodrin	465-73-6	0.007		USEPA LOC [2]
Isophorone Diisocyanate	4098-71-9	0.0012		USEPA LOC [2]

Chemical Name	CAS Number	Toxic Endpoint (TE)		Basis for TE
		TE in (gm/m^3 or mg/l)	TE in (ppm) [1]	
Isopropyl Chloroformate [Carbonochloridic Acid,1-Methylethyl Ester]	108-23-6	0.10	20	USEPA ARP Program[3]
Leptophos	21609-90-5	0.03		USEPA LOC [2]
Lewisite	541-25-3	0.0047	0.6	USEPA LOC [2]
Lindane	58-89-9	0.005		IDLH95/10 [2]
Lithium Hydride	7580-67-8	0.00005		IDLH95/10 [2]
Malononitrile	109-77-3	0.019		USEPA LOC [2]
Manganese, Tricarbonyl Methylcyclopentadienyl	12108-13-3	0.0006	0.07	USEPA LOC [2]
Mechlorethamine	51-75-2	0.029	4.5	USEPA LOC [2]
Mercuric Acetate	1600-27-7	0.000025 as Hg		TLV96 [2]
Mercuric Chloride	7487-94-7	0.000025 as Hg		TLV96 [2]
Mercuric Oxide	21908-53-2	0.000025 as Hg		TLV96 [2]
Methacrylonitrile [2-Propenenitrile, 2-Methyl-]	126-98-7	0.0027	1	USEPA ARP Program[3]
Methacryloyl Chloride	920-46-7	0.0006	0.14	USEPA LOC [2]
Methacryloyloxyethyl Isocyanate	30674-80-7	0.00027	0.04	USEPA LOC [2]
Methamidophos	10265-92-6	0.0075		USEPA LOC [2]
Methanesulfonyl Fluoride	558-25-8	0.014	3.5	USEPA LOC [2]
Methidathion	950-37-8	0.02		USEPA LOC [2]
Methiocarb	2032-65-7	0.015		USEPA LOC [2]
Methomyl	16752-77-5	0.01		USEPA LOC [2]
Methoxyethylmercuric Acetate	151-38-2	0.00001 as Hg-alk		TLV96 [2]
Methyl Bromide	74-83-9	0.1	25	IDLH95/10 [2]
Methyl 2-Chloroacrylate	80-63-7	0.005	1	USEPA LOC [2]
Methyl Chloride [Methane, chloro-]	74-87-3	0.82	400	USEPA ARP Program[3]
Methyl Chloroformate [Carbonochloridic Acid, Methylester]	79-22-1	0.0019	0.5	USEPA ARP Program[3]
Methyl Hydrazine [Hydrazine, Methyl-]	60-34-4	0.0094	5	USEPA ARP Program[3]
Methyl Isocyanate [Methane, isocyanato-]	624-83-9	0.0012	0.5	USEPA ARP Program[3]
Methyl Isothiocyanate	556-61-6	0.033		USEPA LOC [2]
Methyl Mercaptan [Methanethiol]	74-93-1	0.049	25	USEPA ARP Program[3]
Methylmercuric Dicyanamide	502-39-6	0.00001 as Hg-alk		TLV96 [2]
Methyl Phosphonic Dichloride	676-97-1	0.0014		USEPA LOC [2]
Methyl Thiocyanate [Thiocyanic Acid, Methyl Ester]	556-64-9	0.085	29	USEPA ARP Program[3]
Methyltrichlorosilane [Silane, Tricholoromethyl-]	75-79-6	0.018	3	USEPA ARP Program[3]
Methyl Vinyl Ketone	78-94-4	0.00007	0.02	USEPA LOC [2]
Metolcarb	1129-41-5	0.0048		USEPA LOC [2]
Mexacarbate	315-18-4	0.014		USEPA LOC [2]
Mitomycin C	50-07-7	0.023		USEPA LOC [2]
Monocrotophos	6923-22-4	0.00063		USEPA LOC [2]
Muscimol	2763-96-4	0.017		USEPA LOC [2]
Mustard Gas	505-60-2	0.001	0.15	USEPA LOC [2]
Nickel Carbonyl	13463-39-3	0.00067	0.1	USEPA ARP Program[3]
Nicotine Sulfate	65-30-5	0.009		USEPA LOC [2]
Nitric Acid	7697-37-2	0.026	10	USEPA ARP Program[3]
Nitric Oxide [Nitrogen Oxide (NO)]	10102-43-9	0.031	25	USEPA ARP Program[3]

Chemical Name	CAS Number	Toxic Endpoint (TE)		Basis for TE
		TE in (gm/m^3 or mg/l)	TE in (ppm) [1]	
Nitrobenzene	98-95-3	0.1	20	USEPA LOC [2]
Nitrogen Dioxide	10102-44-0	0.002	1	NAS SPEGL [2]
Norbormide	991-42-4	0.0038		USEPA LOC [2]
Oleum (Fuming H_2SO_4)[H_2SO_4, mixture with SO_3]	8014-95-7	0.010	3	USEPA ARP Program[3]
Organorhodium Complex (PMN-82-147) (MIXTURE)	MIX	0.0008		USEPA LOC [2]
Ouabain	630-60-4	0.0083		USEPA LOC [2]
Oxamyl	23135-22-0	0.0017		USEPA LOC [2]
Ozone	10028-15-6	0.001	0.5	IDLH95/10 [2]
Paraquat Dichloride	1910-42-5	0.0001		IDLH95/10 [2]
Paraquat Methosulfate	2074-50-2	0.00015		USEPA LOC [2]
Parathion-Methyl	298-00-0	0.00034		USEPA LOC [2]
Paris Green	12002-03-8	0.022		USEPA LOC [2]
Pentaborane	19624-22-7	0.0003	0.1	IDLH95/10 [2]
Pentadecylamine	2570-26-5	0.002		USEPA LOC [2]
Peracetic Acid [Ethaneperoxoic Acid]	79-21-0	0.0045	1.5	USEPA ARP Program[3]
Perchloromethylmercaptan [Methanesulfenyl chloride, Trichloro-]	594-42-3	0.0076	1	USEPA ARP Program[3]
Phenol	108-95-2	0.2		AIHA ERPG-2 [2]
Phenol, 2,2'-Thiobis(4-Chloro-6-Methyl)-	4418-66-0	0.0013		USEPA LOC [2]
Phenol, 3-(1-Methylethyl)-, Methylcarbamate	64-00-6	0.016		USEPA LOC [2]
Phenoxarsine, 10, 10' - Oxydi-	58-36-6	0.014		USEPA LOC [2]
Phenyl Dichloroarsine	696-28-6	0.004	0.4	USEPA LOC [2]
Phenylhydrazine Hydrochloride	59-88-1	0.009		IDLH95/10 [2]
Phenylmercury Acetate	62-38-4	0.0001 as Hg-aryl		TLV96 [2]
Phenylsilatrane	2097-19-0	0.001		USEPA LOC [2]
Phenylthiourea	103-85-5	0.003		USEPA LOC [2]
Phorate	298-02-2	0.0001	0.01	USEPA LOC [2]
Phosacetim	4104-14-7	0.0037		USEPA LOC [2]
Phosfolan	947-02-4	0.009		USEPA LOC [2]
Phosgene [Carbonic Dichloride]	75-44-5	0.00081	0.2	USEPA ARP Program[3]
Phosmet	732-11-6	0.00054		USEPA LOC [2]
Phosphine	7803-51-2	0.0035	2.5	USEPA ARP Program[3]
Phosphonothioic Acid, Methyl-, S-(2-(Bis (1-Methylethyl)Amino) Ethyl) O-Ethyl Ester	50782-69-9	0.0009	0.08	USEPA LOC [2]
Phosphorus	7723-14-0	0.0001		TLV96 [2]
Phosphorus Oxychloride [Phosphoryl Chloride]	10025-87-3	0.0030	0.5	USEPA ARP Program[3]
Phosphorus Pentachloride	10026-13-8	0.007		IDLH95/10 [2]
Phosphorus Trichloride	7719-12-2	0.028	5	USEPA ARP Program[3]
Physostigmine	57-47-6	0.0045		USEPA LOC [2]
Physostigmine, Salicylate (1:1)	57-64-7	0.0025		USEPA LOC [2]
Picrotoxin	124-87-8	0.015		USEPA LOC [2]
Piperidine	110-89-4	0.022	6	USEPA ARP Program[3]
Potassium Arsenite	10124-50-2	0.0005 as As		IDLH95/10 [2]
Potassium Cyanide	151-50-8	0.0025 as CN		IDLH95/10 [2]
Potassium Silver Cyanide	506-61-6	0.0025 as CN		IDLH95/10 [2]
Promecarb	2631-37-0	0.016		USEPA LOC [2]

Chemical Name	CAS Number	Toxic Endpoint (TE)		Basis for TE
		TE in (gm/m^3 or mg/l)	TE in (ppm) [1]	
Propargyl Bromide	106-96-7	0.00003	0.01	USEPA LOC [2]
Propiolactone, Beta	57-57-8	0.0015	0.5	USEPA LOC [2]
Propionitrile [Propanenitrile]	107-12-0	0.0037	1.6	USEPA ARP Program[3]
Propiophenone, 4'-Amino-	70-69-9	0.0056		USEPA LOC [2]
Propyl Chloroformate [Carbonochloridic Acid, Propylester]	109-61-5	0.010	2	USEPA ARP Program[3]
Propylene Oxide [Oxirane, Methyl-]	75-56-9	0.59	250	USEPA ARP Program[3]
Propyleneimine [Aziridine, 2-Methyl-]	75-55-8	0.12	50	USEPA ARP Program[3]
Prothoate	2275-18-5	0.0017		USEPA LOC [2]
Pyrene	129-00-0	0.0017		USEPA LOC [2]
Pyridine, 4-Amino-	504-24-5	0.02		USEPA LOC [2]
Pyridine, 4-Nitro-, 1-Oxide	1124-33-0	0.08		USEPA LOC [2]
Pyriminil	53558-25-1	0.0062		USEPA LOC [2]
Salcomine	14167-18-1	0.039		USEPA LOC [2]
Sarin	107-44-8	0.00005	0.009	USEPA LOC [2]
Selenious Acid	7783-00-8	0.0001 as Se		IDLH95/10 [2]
Semicarbazide Hydrochloride	563-41-7	0.1		USEPA LOC [2]
Sodium Arsenate	7631-89-2	0.0005 as As		IDLH95/10 [2]
Sodium Arsenite	7784-46-5	0.0005 as As		IDLH95/10 [2]
Sodium Azide (Na (N3))	26628-22-8	0.02		USEPA LOC [2]
Sodium Cacodylate	124-65-2	0.004		USEPA LOC [2]
Sodium Cyanide (Na (CN))	143-33-9	0.0025 as CN		IDLH95/10 [2]
Sodium Fluoroacetate	62-74-8	0.00025		IDLH95/10 [2]
Sodium Selenate	13410-01-0	0.0001 as Se		IDLH95/10 [2]
Sodium Selenite	10102-18-8	0.0001 as Se		IDLH95/10 [2]
Sodium Tellurite	10102-20-2	0.02		USEPA LOC [2]
Stannane, Acetoxytriphenyl-	900-95-8	0.0001 as Sn-org		TLV96 [2]
Strychnine	57-24-9	0.0003		USEPA LOC [2]
Strychnine Sulfate	60-41-3	0.005		USEPA LOC [2]
Sulfur Dioxide	7446-09-5	0.0078	3	USEPA ARP Program[3]
Sulfuric Acid	7664-93-9	0.001	0.25	NAS EEGL[2]
Sulfur Tetrafluoride [Sulfur Fluoride (SF4), (T-4)-]	7783-60-0	0.0092	2	USEPA ARP Program[3]
Sulfur Trioxide	7446-11-9	0.010	3	USEPA ARP Program[3]
Tabun	77-81-6	0.00015	0.02	USEPA LOC [2]
Tellurium Hexafluoride	7783-80-4	0.001	0.1	USEPA LOC [2]
Tetramethyllead [Plumbane, Tetramethyl-]	75-74-1	0.0040	0.4	USEPA ARP Program[3]
Tetranitromethane [Methane, Tetranitro-]	509-14-8	0.0040	0.5	USEPA ARP Program[3]
Thallium Sulfate	10031-59-1	0.002		USEPA LOC [2]
Thallous Carbonate	6533-73-9	0.002		USEPA LOC [2]
Thallous Chloride	7791-12-0	0.002		USEPA LOC [2]
Thallous Malonate	2757-18-8	0.002		USEPA LOC [2]
Thallous Sulfate	7446-18-6	0.002		USEPA LOC [2]
Thiocarbazide	2231-57-4	0.1		USEPA LOC [2]
Thiofanox	39196-18-4	0.0085		USEPA LOC [2]
Thiosemicarbazide	79-19-6	0.0092		USEPA LOC [2]
Thiourea, (2-Chlorophenyl)-	5344-82-1	0.0046		USEPA LOC [2]
Thiourea, (2-Methylphenyl)-	614-78-8	0.05		USEPA LOC [2]

Chemical Name	CAS Number	Toxic Endpoint (TE)		Basis for TE
		TE in (gm/m^3 or mg/l)	TE in (ppm) [1]	
Titanium Tetrachloride [Titanium Chloride (TiCl4) (T-4)-]	7550-45-0	0.020	2.6	USEPA ARP Program[3]
Toluene-2,4-Diisocyanate [Benzene, 2,4-Diisocyanato-1-Methyl-]	584-84-9	0.0070	1	USEPA ARP Program[3]
Toluene-2,6-Diisocyanate [Benzene, 1,3-Diisocyanato-2-Methyl-]	91-08-7	0.0070	1	USEPA ARP Program[3]
Toluene Diisocyanate (unspecified isomer) [Benzene, 1,3-diisocyanatomethyl-]	26471-62-5	0.0070	1	USEPA ARP Program[3]
Triamiphos	1031-47-6	0.01		USEPA LOC [2]
Trichloro(Chloromethyl)Silane	1558-25-4	0.0003	0.04	USEPA LOC [2]
Trichloro(Dichlorophenyl)Silane	27137-85-5	0.008	0.7	USEPA LOC [2]
Triethoxysilane	998-30-1	0.005	0.7	USEPA LOC [2]
Trimethylchlorosilane [Silane, Chlorotrimethyl-]	75-77-4	0.050	11	USEPA ARP Program[3]
Trimethylolpropane Phosphite	824-11-3	0.0025		USEPA LOC [2]
Trimethyltin Chloride	1066-45-1	0.0001 as Sn-org		TLV96 [2]
Triphenyltin Chloride	639-58-7	0.0001 as Sn-org		TLV96 [2]
Tris(2-Chloroethyl)Amine	555-77-1	0.0008	0.1	USEPA LOC [2]
Valinomycin	2001-95-8	0.0025		USEPA LOC [2]
Vanadium Pentoxide	1314-62-1	0.0035 as V		IDLH95/10 [2]
Vinyl Acetate Monomer [Acetic Acid Ethenyl Ester]	108-05-4	0.26	75	USEPA ARP Program[3]
Warfarin	81-81-2	0.02		USEPA LOC [2]
Warfarin Sodium	129-06-6	0.009		USEPA LOC [2]
Xylylene Dichloride	28347-13-9	0.002		USEPA LOC [2]
Zinc, Dichloro(4,4-Dimethyl-5((((Methylamino) Carbonyl)Oxy) Imino) Pentanenitrile)-, (T-4)-	58270-08-9	0.009		USEPA LOC [2]
Zinc Phosphide	1314-84-7	0.012		USEPA LOC [2]

Footnotes

[1] ppm = [gm/m3 / molecular weight] x 24,450. Conversion to ppm is used for liquids and gases only. No ppm conversion is given for a regulated substance that is a solid. Table 1 regulated substances were converted to ppm from mg/l.

[2] TEs were provided by OEHHA. Each TE is based on preexisting toxicity values. The selection of each TE was based on the best available scientific information, within the United States Environmental Protection Agency (USEPA) framework. Following the USEPA methodology (1987, 1994, 1996) and the availability of recent information, the TE was chosen from the hierarchy, SPEGL>EEGL>ERPG-2>IDLH/10>TLV. In some cases, an evaluation of the available documentation suggested that a value from a guideline outside of this order was more appropriate. The definitions of specific standards are given below:

LOC: Level of Concern developed by the USEPA (1987) for emergency planning. LOCs are based primarily on IDLH levels developed by NIOSH, and in the absence of IDLHs, TLVs. As proposed by USEPA (1987), the IDLH was divided by 10.

EEGL: Emergency Exposure Guideline Level developed by the National Academy of Sciences (NAS) Committee on Toxicology (COT) (NAS, 1988).

IDLH: level considered as Immediately Dangerous to Life and Health, developed by the National Institute for Occupational Safety & Health. Because an IDLH is associated with death or the inability of the exposed individual to safely leave, USEPA (1987) divided the IDLH by 10 to obtain an LOC. Updated IDLHs are indicated as IDLH95 (NIOSH, 1995).

ERPG-2: Emergency Response Planning Guideline developed by the American Industrial Hygiene Association and represents an airborne toxin concentration below which most persons could be exposed for one hour without experiencing irreversible or other serious health effects that could interfere with the ability to take protective action (AIHA, 1996).

SPEGL: Short Term Public Emergency Guideline Level developed by the NAS-COT (1988).

PEL: Public Emergency exposure Limit (NAS, 1971).

TLV: 8 hour occupational Threshold Limit Value developed by the American Conference of Governmental Industrial Hygienists (ACGIH, 1996).

These TE values are based on the listed substance, except when indicated to be based on the elemental constituent (e.g. "as AS" means the TE is based on the element arsenic). Other exceptions: the TE for boron trichloride (BCl_3) is based on hydrochloric acid (HCl) and the assumption of 3 moles of HCl per mole of BCl_3; the basis for the TE for phenylhydrazine hydrochloride is the toxicity of phenylhydrazine free base (CAS 100-63-0). No values were available for the hydrochloride.

[3] TEs (in mg/l) were taken from USEPA's Accidental Release Prevention Program found in Title 40, Code of Federal Regulations, Part 68, Appendix A.

Appendix C
Table of State-Specific CalARP Program Information

Regulation Section	Specific California Requirement
2735.3(a)	Definition of AA
2735.3(u)	Definition of interested persons
2735.3(z)	Definition of modified stationary source
2735.3(cc)	Definition of OES
2735.3(nn)	Definition of qualified person
2735.3(oo)	Definition of qualified position
2735.3(ww)	Definition of trade secrets (HSC 25538)
2735.4(a)	Several applicability issues
2735.4(e)(3)	AA risk determination for Table 3 chemicals
2735.5(a)	Requires coordination between facility and AA to implement Program
2735.5(c)	Use of Model RMP's
2740.1(a)	AA gets a copy of RMP submitted to USEPA
2740.1(b) & (c)	Registration
2745.1(a) & (c)	RMP is submitted to AA
2745.1(d)	RMP submittal timeframe for existing facilities
2745.1(e)	RMP submittal timeframe for new or modified facilities
2745.1(f)	State-only required RMP information does not get submitted to USEPA
2745.1(g)	AA consults with the Agricultural Commissioner or Department of Food and Agriculture (Department of Pesticide Regulation) for pesticide-related RMPs.
2745.1(j)	AA provides RMP information to OES, if requested
2745.2	RMP review process
2745.6(l)	Program 2 Prevention Program external events analysis
2745.7(q)	Program 3 Prevention Program external events analysis
2745.10(b)	RMP updates for Table 3 chemicals (copied FedARP Program)
2745.10(c)	Copy of revised registration is also submitted to AA
2745.10(d)	Table 3 RMP update timeframe
2745.10(e)	Revised RMPs subject to public review
2745.10(f)	New owners/operators have 30 days to update registration information. The new owner/operator determines if RMP changes are necessary.
2745.11	Covered process modifications
2745.12	Certificate of Occupancy
2750.2(a)	Discussion of toxic endpoints for Table 3
2750.3(i)	Parameters for OCA and solids
2755.2(b)	Program 2: facility consults with AA for Hazard Review
2755.2(c)	Program 2: Checklists must be acceptable to AA
2755.2(d)	Program 2: Hazard Review external events consideration, including seismic
2760.2(b)	Program 3: Coordination with AA on PHA
2760.2(c)(8)	Program 3: PHA external events consideration, including seismic

Table of State-Specific CalARP Program Information
-Continued-

2770.5, Table 3	State specific list of chemicals and/or thresholds (there are many other references to Table 3 throughout the CalARP Program regulations). There is some overlap between Table 3 and Table 1.
2765.2(a)(1)(A)	Additional language about emergency planning and emergency response
2765.2(a)(3)	Incident Command System training
2765.2(b)	Contingency Plan format – 25503.4 HSC format, information provided to OES, upon request
2765.2(d)	Provisions about satisfying Business Plan emergency response planning requirements
2775.2(a)	Audits coordinated with Unified Program
2775.2(d)	AA access to facility for audit purposes
2775.2(g)	Audits: AA develops time table for implementation
2775.3	AA inspections
2775.4	Enforcement
2775.6(b)	Facility must submit relevant information requested by AA, OES, or air district
2775.6(d)(3)	Coordination of notification of initial enforcement action
2775.6(e)	CalARP Program applicability itself does not pull a facility into the federal Title V program
2780.1 – 2780.7	Local program evaluation
2785.1	Technical assistance

Appendix D

Table of CalARP Program Time Frames

Subject:	Initiating Event	Ending Event	Time Frame	Chapter/ Reference*	
Submission of RMP					
Submission of RMP (Table 1 or 2)	Facility existed prior to 6/21/99		By 6/21/99	3	2745.1
Submission of RMP (Table 3)			12-36 months after AA determination	3	2745.1
Submission of RMP (all Tables)	Facility is new or has been modified		Before TQ is present in process	3	2745.1
Review of RMP					
Certification	No set time boundaries for these activities, as long as they are completed within the overall submittal timeframe		Within submittal timeframe	3	2745.2
Completeness determination				3	2745.2
Initial public notice				3	2745.2
RMP review				3	2745.2
Deficiency notice				3	2745.2
Deficiency correction	Deficiency notice	Resubmission of corrected RMP	60 days (90 days if requested)	3	2745.2
Formal public notice	RMP completeness determination	Publication of formal public notice	15 days	3	2745.2
Formal public review	Publication of formal public notice	End of formal public review period	45 days	3	2745.2
Evaluation Review (Programs 1 and 2)	End of formal public review period	RMP acceptance or rejection	36 months	3	2745.2
Evaluation Review (Program 3)			24 months	3	2745.2
RMP Updates					
RMP update	Initial submission		Within 5 years	3	2745.10
Periodic RMP update	Most recent RMP update			3	2745.10
New regulated chemical	A new chemical is first listed in regulation		Within 3 years	3	2745.10

Regulated chemical added to existing process	A new chemical is added to an existing process	RMP update	Same day	3	2745.10
Regulated chemical in new process	A chemical is present in a new process			3	2745.10
Change in the process	A change occurs that requires PHA or hazard review		Within 6 months	3	2745.10
	A change occurs that requires a revised offsite consequence analysis			3	2745.10
	A change occurs that alters the Program level			3	2745.10
RMP review process	Submission of updated RMP	Acceptance or rejection of updated RMP	Same as above	3	2745.10
RMP revision resulting from AA audit	Final determination	RMP update	30 days (see "RMP Audit" section below)	9	2775.2(h)
RMP Registration Updates					
Facility no longer in CalARP Program	Determination that facility is no longer subject to CalARP Program	Updated registration to AA and (if Table 1 or 2 facility) USEPA	Within 6 months	3	2745.10
Change in ownership or operator	Change in owner/operator	Updated registration to AA	Within 30 days	3	2745.10
Periodic Reviews					
Offsite Consequence Analysis review and update	The last OCA review and update	OCA review and, if necessary, update	5 years		
Program 2 Safety Information	Last major change	Major change that makes the safety information inaccurate	As necessary		2755.1
Program 3 Process Safety Information	Review interval not specified, but process safety information must be compiled before conducting a Process Hazard Analysis (see below)			43	2760.1

Program 2 Hazard Review	Last Hazard Review	Hazard Review	Within 5 years or when there has been a major change	6	2755.2
Program 3 Process Hazard Analysis (PHA)	Initial PHA or since the last PHA	Update and revalidation of PHA	Initial – no later than the submittal of the RMP Update and revalidate – within 5 years	6	2760.2
Program 2 Operating procedures	No specified interval		Whenever there has been a change, and before startup after the change	5	2755.3
Program 3 Operating procedures	No specified interval for revision, but. . .		. . .Owner or operator shall annually certify that the operating procedures are current and accurate	6	2760.3
Employee training	Initial training or last refresher training	Refresher training	3 years, or more often if necessary	5	2755.4
Program 2 or 3 compliance audit	Last compliance audit	Compliance audit	Within 3 years	5, 6	2755.6, 2760.8
Initiate incident investigation	Incident that resulted in, or could have resulted in, a catastrophic release	Initiation of incident investigation	Within 48 hours	5, 6	2755.7, 2760.9
Incident investigation report retention	Generation of report or summary	Discard report or summary	5 years	5,6	2755.7, 2760.9
Inspections	Last AA inspection	AA inspection of facility	3 years	9	2775.3
Recordkeeping by facility	Record supporting the implementation of the CalARP Program generated by facility	Record discarded or purged by facility	5 years, unless otherwise provided in Article 6	9	2775.1

RMP Audits					
Audit of the facility's RMP	Audits are performed "periodically" ("period" is not defined). Section 2775.2 lists criteria for selecting facilities for audits.			9	2775.2
AA issues a written preliminary determination of necessary RMP revisions	No timeline specified.			9	2775.2(e)
Written response to preliminary determination	Issuance of preliminary determination by AA	Written response by owner or operator of facility	90 days, or less, or more, at AA's discretion – see 2775.2(f)(2)	9	2775.2(f)
Final determination	After 90-day period for response, above	Issuance of final determination	Timeline not specified	9	2775.2(g)
RMP revision	Issuance of implementation schedule, per final determination	RMP revision	30 days	9	2775.2(h)

*Chapter = Chapter of this document for further discussion.
Reference = Citation of CalARP Program Regulations (Title 19, CCR).

Appendix E

Best Practices for Local Government

The following document was dated April 8, 2002, and was mailed to all UPAs:

Hazardous Material Emergency Planning and Response Programs: Handling Public Information Requests

The potential threat of terrorist activity aimed against Hazardous Materials facilities in California has created a need for increased security. Your agency's regulations and process for public dissemination of information should be reviewed in light of the increased threat of terrorism. We recommend that each local agency work with your city or county legal office to determine how Business Plan and California Accidental Release Prevention (CalARP) program information can best be disseminated consistent with local and state open records requirements.

California's Public Records Act and hazardous materials laws address releasing information to the public and to emergency responders. While this information must still be available for the public, the California Government Code, section 6253.4(a) allows every agency to adopt regulations to establish procedures to be followed when making its records available to members of the public.

Some procedures provided for your consideration include:

- Requests should be in writing. An agency-generated form may be used.
- The requestor should provide photo identification, both at the time the request is submitted, and at the time the person actually accesses the records.
- Record the name and address of each requestor and maintain a registry of the facilities each requestor has viewed.
- If a person requests to review the records in person, access should be by appointment, and the requestor should be allowed access only to those records specifically requested in writing. This appointment should be at the requestor's convenience, at any time during the agency's normal business hours.
- The information available for review will not include any trade secrets. Disclosure of designated trade secrets must follow the process in California Health and Safety Code, sections 25511 and 25538.
- The facility "site maps" and precise chemical location information shall not be available for inspection (California Health and Safety Code, section 25506(a)).
- It may not be prudent to make this information readily available on the Internet.

Legal requirements for public record access can be found under the following:

- General requirements – The California Public Records Act, California Government Code, section 6250, *et seq.*
- Business Plan Program – California Health & Safety Code, section 22506(b) and 25511.
- CalARP Program – California Health & Safety Code section 25535.2 for public comment period and sections 25538(a), (g)(1), and (g)(2) for trade secrets.

OES is not attempting to discourage local government from providing information about hazardous material handling and storage practices in their communities, or the potential risk of these practices. If you have questions about this document or the OES hazardous materials programs, please contact the OES Hazardous Materials Unit at (916) 845-8741.

Appendix F

Preliminary Risk Determinations For Table 3 Facilities

This Appendix is intended to provide a logical method to evaluate the risks associated with the mandated preliminary risk determination of a facility. This determination must be made by AAs to support the need for a facility to comply with the CalARP Program.

The California Health and Safety Code, Section 25534, requires the AA to make a preliminary determination whether there is a significant likelihood that a facility's use of a Table 3 regulated substance poses an accident risk. When making this preliminary determination, the AA should coordinate with other agencies responsible for responding to a release from the facility, including the potential for the release to cross jurisdictional lines.

If the AA determines that the likelihood of an accident risk is not significant, or is remote, the AA may choose to not require an RMP for the facility. To repeat, this "AA preliminary determination" only applies to Table 3 facilities; it does not apply to Table 1 or Table 2 facilities. Table 1 or Table 2 facilities are automatically in the CalARP Program.

Establishment and collection of the State Surcharge for any of the Unified Program elements, including the CalARP Program, falls under the authority of the Secretary of California Environmental Protection Agency (Cal/EPA). The issues of CalARP Program Surcharge collection from "RMP exempt" stationary sources is specifically addressed in Title 27, CCR, Section 15240 (c)(3)(A)(1):

> A business is not required to pay the CalARP program component of the surcharge if a CUPA makes a determination that there is not a significant likelihood of a regulated substances accident risk and does not require the preparation and submission of a risk management plan at any stationary source operated by that business in the CUPA's jurisdiction, pursuant to Health and Safety Code, Section 25534. This CalARP program surcharge component waiver is effective starting in the following fiscal year after the determination is made by the CUPA. If subsequent changes lead to a re-determination and a requirement by the CUPA to prepare and submit any risk management plan at any of the business's stationary source(s), then this surcharge component will be assessed beginning in the following fiscal year.

{Note: The risk ranking procedure presented in this Appendix is just a suggestion. It uses toxicity of the potentially released chemical as the primary variable for risk ranking. Other models may use the likelihood of an accident or some other parameter as the primary variable. Choose the variable that most closely fits your needs.}

Suggestions for CalARP Program Facility Risk Ranking[42]

Option 1: If the facility has a chemical above the threshold quantity, an RMP is automatically required, further risk determinations may not be necessary. The RMP will be due 12-36 months after it is requested for an "existing" facility; and before a threshold quantity is present in a process for a "new or modified" facility.

42 Howard Wines, City of Bakersfield Fire Department and Dr. Fred Lercari, OES HazMat Unit

Option 2: If administrative constraints or logic dictates the need to create a graduated approach to requesting the submission of California-only RMPs, the following approach is one way to quantify the process to rank each facility's potential risk to health and safety and the environment. This same approach could also be used by the AA to request compliance with other Program Level requirements.

Note of Caution: Whatever process is used, the AA will need to establish and follow written policies and procedures and document each and every case where risk ranking is applied. This is to protect the AA from possible accusations of being arbitrary and capricious, especially if competitors from the same industry are going to be impacted differently within the same jurisdiction, or if environmental justice issues are raised.

Methodology: Risk is a factor of the likelihood of a release and the severity of the consequences of a release. The AA may use this recommendation or use more or different variables to suit the approach they wish to take. Three variables will be used in this approach:

Toxicity Factor (TF) (how much and how bad is this substance?) The toxicity factor will be developed using the quantity of chemical in a process, the threshold quantity, and the federal Level of Concern for the chemical.

Population Exposed (PE) (how many and what type of receptors may be impacted?) Potential Population impacts should be determined by plume modeling and using current census data.

Facility Risk Index (FRI) (how likely is the facility to have a significant accident?)

This risk analysis approach is based on the significance of a potential release.
Therefore:

- The Toxicity Factor (TF) is considered to be the most important factor related to health impacts.
- The population exposed (PE) is considered second in importance related to the potential significance of estimated off site consequences.
- The Facility Risk Index (FRI) is considered third in importance and should include analysis of potential and actual accidents, accident causes, and an assessment of the probability and frequency of accidents that may be anticipated.

Formula: Total Risk = 3(TF) + 2(PE) + FRI

Because fatalities are most critical, more weight is given to acute health impacts from toxic or flammable properties. This approach evaluates the problem from an "accident risk" perspective, but is heavily weighted toward the toxicity of the chemical. This approach avoids an over-inflated emphasis on accident frequency in cases where many accidents may be of little significance. Thus, the toxicity of the chemical at risk is the most important element to be factored into the risk formula.

Procedure:

Step 1. Calculate the Toxicity Factor (TF) for the chemical in question.
TF = Reported quantity of chemical (Q) divided by its threshold quantity (TQ), multiplied by 10 times one over the federal Level of Concern (LOC) for "Extremely Hazardous Substances."

TF = (Q/TQ) X 10(1/LOC) = _____

Make sure all units are in pounds. Add up the TF's for multiple chemicals being used at the same facility, if applicable.

$$TF_{total} = TF_1 + TF_2 + TF_3 \ldots$$

Step 2. Calculate the best estimate for population exposure (PE). In the absence of any other off-site consequence modeling and vulnerability analysis, try using the DOT Emergency Response Guidebook for protective action distances. Use the following questionnaire, or modify it according to conditions within the jurisdiction:

1. Can the toxic chemical become airborne rapidly (i.e. a gas, fine dust, highly volatile liquid)? Is the material highlighted in the yellow and blue indexes and listed in the green bordered pages of the DOT Emergency Response Guidebook as being Toxic by Inhalation (TIH)?

   NO = 0 YES = 2

   If answer to question #1 is No, proceed to question #6

   If answer to question #1 is YES, determine the greatest protective action distance (or distance to toxic endpoint). Distance = _____.

2. Is there a school within the protective action (toxic endpoint) distance?

   NO = 0 YES = 2

3. Is there a hospital, nursing home, or child care facility within the distance?

   NO = 0 YES = 2

4. Is there residential housing within the distance?

   NO = 0 YES = 2

5. Is the population density of this area higher than average (multi-family or multi-story structures within the distance)?

   NO = 0 YES = 2

6. What is the occupancy of the facility where the chemical is being handled?

Less than 5 people	=	1
6 to 25 people	=	2
26 to 50 people	=	3
More than 50 people	=	4

TOTAL Population Exposure (PE) = _____ (add the values of responses)

Step 3. Facility Process Questionnaire.

Develop a questionnaire to measure activities or conditions that increase the likelihood of a release. Add up the affirmative responses to such questions as:

1. Is the chemical manufactured or used in a chemical reaction?
2. Is there any other flammable or explosive material manufactured or used in a chemical reaction?
3. Are any of the reactions in questions 1 or 2 (above) moderately or highly exothermic (e.g.: alkylation, esterification, oxidation, nitration, polymerization or condensation) or do they involve electrolysis?
4. Can an accidental release to the atmosphere result from the malfunction of a scrubbing, treatment or neutralization system or from the discharge of a pressure relief valve?
5. Does any physical or chemical process utilizing the chemical involve a batch process?
6. Does any process involving the production or use of the chemical operate at a pressure in excess of 15 psi?
7. At a pressure exceeding 275 psi?
8. Does any process involving the production or use of the chemical operate at a temperature in excess of 125 degrees F?
9. In excess of 250 degrees F?
10. Can explosive dust be present in the same building as the chemical?
11. Are there any ignition sources or open flames within 100 feet of the process, or transfer or storage areas where the chemical may be present? (Areas protected by fire rated separations may warrant exclusion or predicted impact reduction).
12. Is any lined or non-metallic pipe used in the transfer of the chemical?
13. Is any equipment or piping that handles the chemical more than 10 years old?
14. More than 25 years old?
15. (Insert any of your own questions based on experience or local conditions).

Total # of "Yes" answers to the questionnaire (x) =

Step 4. Evaluate the safety record and inspection history of the facility. This may be somewhat intuitive depending on the types and frequencies of historical accidents or violations. Put the facility in one of the three categories and assign it the corresponding value (y):

Reasonable = 0 Needs some improvement = 5 Unsatisfactory = 10

Safety Record & Inspection History (y) =

Step 5. Factor in any significant element not directly addressed in the questionnaire. Make a note of what the complicating factor was in support of the decision. If there is a compelling reason, points may be added to require the RMP in borderline cases.

Minimal = 0 Considerable = 4 Substantial = 8

Complicating Factor (z) = (describe what the factor is and explain the value)

Step 6. Assign the composite Facility Risk Index (FRI)

FRI = 0.5(x) + y + z **FRI =** _____

Step 7. Assign the Total RMP Risk Score for the facility. Add up the weighted values.

Toxicity Factor (TF) from Step #1	(TF)_____	x	3	=	_____
Population Exposed (PE) from Step #2	(PE)_____	x	2	=	_____

Facility Risk Index (FRI) from Step #6 (FRI)_____ x 1 = _____

TOTAL RMP Risk Score _____

Example:

A farm uses Methyl Bromide in ten 150# cylinders, evaluated and considered to be in a process due to co-location. The facility exceeds the TQ (1,000 lbs) for the chemical.

Toxicity Factor (TF):
Quantity = 1,500; Threshold = 1,000 pounds; LOC = 0.78
1,500 lbs of methyl bromide divided by the TQ (1,000 lbs) = 1.5
Multiplied by 10(1/LOC) = 10(1/0.78) = 12.8

TF = 1.5 X 10(1.28) = 19.2

Population Exposure (PE):
DOT ERG lists methyl bromide as a Toxic by Inhalation (2 points) material with a protective distance of 0.9 miles. There is one school (2 points) and some residential housing (2 points) within this distance from the facility. There are 10 employees on site (2 points).

Therefore, Population Exposure (PE) = 8

Facility Risk Index (FRI):
There are five questions answered "yes" on the facility risk index questionnaire (x = 5). There have been no accidents, but the farm has some labeling violations and poor used oil management practices (y = 5). There are no other complicating factors involved (z = 0).

Therefore, Facility Risk Index (FRI) FRI = 0.5(x) + y + z
FRI = 0.5(5) + 5 + 0
FRI = 7.5

Total RMP Risk: Total risk = 3(TF) + 2(PE) + FRI

TF	=	19.2	x	3	=	57.7
PE	=	8	x	2	=	16
FRI	=	7.5	x	1	=	7.5
	Total RMP Risk Score				**=**	**81.2**

Complete this process for every potential CalARP Program facility and rank the scores from highest to lowest.

Develop criteria and procedures for establishing the specific scores associated with each RMP. Create a written procedure for the risk analysis and seek AA management approval then adopt or modify as appropriate.

Appendix G
Example Forms and Letters

Courtesy Of City of Bakersfield Fire Department
(Howard Wines)

These forms are only examples. OES does not attest to their legal sufficiency, and prior to using these forms the AA should consider having them reviewed by their own legal counsel. Other examples of useful forms or letters can be found on the Cal/EPA Unified Program Website, http://www.calepa.ca.gov/CUPA/Publications/

1. Registration (CalARP Program Addendum – to be used in conjunction with OES Form 2730,"Business Owner/Operator Information").
2. Interested Party Letter
3. CalARP Program Exemption
4. Notice of RMP Audit Requirements
5. RMP Deficiency Notice
6. RMP Submittal Legal Notice
7. RMP Approval Legal Notice
8. RMP Letter of Acceptance
9. Inspection Forms

Appendix G-1: Example Registration Form – to be used in conjunction with OES Form 2730.

CalARP PROGRAM REGISTRATION

CalARP Program Addendum

	☐ Revised	☐ Initial Submittal		Page		of	

I. GENERAL INFORMATION

STATIONARY SOURCE NAME (Same as BUSINESS OR FACILITY NAME)	FACILITY ID #

II. ADDITIONAL CalARP PROGRAM FACILITY INFORMATION

EPA IDENTIFIER (Not applicable for initial submission)	LATITUDE				LONGITUDE				METHOD	

NAME and DUN & BRADSTEET NUMBER OF CORPORATE PARENT COMPANY	NUMBER OF FULL TIME EMPLOYEES

GOVERNMENTAL AGENCY PROVIDING THE MOST RECENT SAFETY INSPECTION AT THE FACILITY	DATE	(MM / DD / YYYY)

CHECK AS APPLICABLE:

☐ Subject to Section 5189 of Title 8 CCR ☐ Subject to Part 355 of Title 40 of CFR ☐ Subject to Title V of CAA

III. PROCESS SPECIFIC INFORMATION

PROCESS # 1 DESCRIPTION:	NAICS CODE

REGULATED SUBSTANCE (RS) CHEMICAL NAME: (use additional sheet if additional RS in process)	CAS #	QUANTITY (lbs.)	PROGRAM LEVEL

PROCESS # 2 DESCRIPTION:	NAICS CODE

REGULATED SUBSTANCE CHEMICAL NAME: (use additional sheet if additional RS in process)	CAS #	QUANTITY (lbs.)	PROGRAM LEVEL

PROCESS # 3 DESCRIPTION:	NAICS CODE

REGULATED SUBSTANCE CHEMICAL NAME: (use additional sheet if additional RS in process)	CAS #	QUANTITY (lbs.)	PROGRAM LEVEL

PROCESS # 4 DESCRIPTION:	NAICS CODE

REGULATED SUBSTANCE CHEMICAL NAME: (use additional sheet if additional RS in process)	CAS #	QUANTITY (lbs.)	PROGRAM LEVEL

IV. CERTIFICATIONS

☐ Check Here for Program 1 Only: Based on the criteria in Section 2735.4 of Title 19 of CCR, the distance to the specified endpoint for the worst-case release scenario for the above listed process(es) is less than the distance to the nearest public receptor. Within the past five years, the process(es) has (have) had no accidental release that caused offsite impacts provided in the risk management program Section 2735.4(c)(1). No additional measures are necessary to prevent offsite impacts from accidental releases. In the event of fire, explosion, or a release of a regulated substance from the process(es), entry within the distance to the specified endpoints may pose a danger to public emergency responders. Therefore, public emergency responders should not enter this area except as arranged with the emergency contact indicated in the RMP.

I certify under penalty of law that, to the best of my knowledge, information, and belief formed after reasonable inquiry, the information submitted is true, accurate, and complete.

SIGNATURE	DATE

NAME	TITLE

Appendix G-2: Example Interested Party Letter

Date

Dear *{Interested Party Name}*:

A Risk Management Plan (RMP) has been submitted by *{facility name}* located at *{facility address}*, *{city name)*, CA. The RMP describes programs and controls designed to prevent accidental releases of regulated substances. This RMP will be available for public review for the next 45 days at {*location name}*,{*address}*,{*city}*, CA {*ZIP}*.

If you need any further information regarding this legal notice, please call me at {*telephone #}*.

Sincerely,

{Signature Block Information}

Appendix G-3: Example CalARP Program Exemption Letter

Date

{Address Information}

BY CERTIFIED MAIL

EXEMPTION NOTICE
CalARP PROGRAM RISK MANAGEMENT PLAN

Dear {*Owner or Operator Name*}:

Our records indicate that your facility has eliminated or otherwise reduced the amount of a regulated substance below the threshold quantity for the material. You will not be required to submit a Risk Management Plan (RMP) nor comply with the California Accidental Release Prevention (CalARP) Program at this time.

You will, however be required to comply with the CalARP Program and submit a RMP prior to the introduction of any regulated substance above the threshold quantity at your site. In addition, you will still be required to comply with all codes and regulations for the safe storage and handling of hazardous materials in general, and the general duty clause for chemical accident prevention, in particular. *{You may wish to attach a fact sheet for the facility's reference.}*

If you have any questions regarding this exemption, please call me at {*telephone #*}.

Sincerely,

{Signature Block Information}

Appendix G-4: Example Notice of RMP Audit Requirements

DATE

{Address Information}

BY CERTIFIED MAIL

NOTICE OF RMP AUDIT REQUIREMENT UNDER CalARP PROGRAM REGULATIONS

Dear {*Owner or Operator Name*}:

As the owner or operator of a facility subject to the California Accidental Release Prevention (CalARP) Program, you are being notified that, within the next 12 months, this office will conduct an audit of the Risk Management plan (RMP) which your facility submitted in accordance with CalARP Program regulations.

The RMP audit will involve the following activities:

1. A pre-audit coordination meeting at the facility which will include a review of supporting documentation related to the RMP, as well as photographs to be taken by this office to document safety practices and accidental release mitigation systems on site.
2. Pre-planning facility tours involving all three shifts of fire department personnel likely to respond to any chemical emergency at the site. One of these tours will necessarily involve a routine compliance inspection for all aspects related to the Unified Program for hazardous materials and hazardous wastes, not just the RMP.
3. A written "Preliminary Determination" issued to the facility by this office documenting the results of the RMP audit, including any necessary revisions to the RMP to ensure compliance with CalARP Program regulations. The preliminary determination will include an explanation of the basis for the revisions, if any, including a timetable for their implementation.

The CalARP Program regulations require that the facility itself perform its own audit at least once every three years. By conducting and documenting your own RMP audit, you will have satisfied not only a required RMP element, but will also have adequately prepared for the forthcoming regulatory RMP audit to be conducted by this office pursuant to this notice. *{You may wish to attach an audit checklist for the facility's reference.}*

Please use this advance opportunity to help make{*City Name}* a cleaner and safer place in which to work and live.

Sincerely,

{Signature Block Information }

Appendix G-5: Example RMP Deficiency Notice

Date

{Address Information}

NOTICE OF RISK MANAGEMENT PLAN DEFICIENCY
AND
SCHEDULE FOR COMPLIANCE

RE: {*Facility Name*}

Dear {*Owner or Operator Name*}:

An initial review of the Risk Management Plan (RMP) for the above referenced facility has determined that certain deficiencies exist under the following requirement(s):

_____
_____
_____
_____
_____
_____

Therefore, prior to *{date}*, please resubmit the corrected or revised RMP to this office. If you have any questions, please call me at {*Telephone #}*.

Sincerely,

{*Signature Block Information}*

Appendix G-6: Example RMP Submittal Legal Notice

DATE

{Newspaper Name}
Legal Notice Division
{Newspaper Address}
{City Name}, CA {*ZIP*}

Dear Sir:

Please publish the following public notice one time only:

> A Risk Management Plan (RMP) has been submitted by *{Facility Name},* located at *{Address}* , {*City Name}*, CA. {*AA Name}* has initiated the process for government and public review.

The bill for this service should be charged to {*Financial Information}* account. Invoices should be sent to me at the {*AA Name and Address}*. Please send me proof of publication of this notice. If you need any further information regarding this legal notice, please call me at {*Telephone #}*.

Sincerely,

{Signature Block Information}

Appendix G-7: Example RMP Approval Legal Notice

Date

{Newspaper Name}
Legal Notice Division
{Newspaper Address}
{City Name}, CA {*ZIP}*

Dear Sir:

Please publish the following public notice one time only:

> A Risk Management Plan (RMP) has been prepared by *{Facility Name}* located at *{Address}*, *{City Name}*, CA. The RMP describes programs and controls designed to prevent accidental releases of a regulated substance. This RMP will be available for public review for the next 45 days at {*Location Information}*. Contact *{Person's Name}* for information regarding this RMP.

The bill for this service should be charged to *{Financial Information}* account. Invoices should be sent to me at the *{AA Name and Address}*. Please send me proof of publication of this notice.

If you need any further information regarding this legal notice, please call me at *{Telephone #}*.

Sincerely,

{Signature Block Information}

Appendix G-8: Example RMP Letter of Acceptance

Date

{Address Information}

Dear *{Owner or Operator Name}*:

The *{AA Name}* finds the Risk Management Plan (RMP) prepared by *{Facility Name}*, regarding the handling of *{Regulated Substance}*, to be complete in scope and content. The *{Inspecting Agency Name}* will conduct follow up inspections to verify compliance with the risk management measures described in this plan. Please notify this office at least five (5) days in advance of start-up of the new *{Description of Process}* process.

Notice of completion of the RMP will be published in the *{Newspaper Name}*. The RMP will then be subject to a 45 day review period during which the *{AA Name}* will consider all public comments regarding the adequacy of this RMP.

Please call me if I can provide any further assistance or clarification regarding the RMP.

Sincerely,

{Signature Block Information }

Appendix G-9: Example Inspection Form

{*AA HEADER INFORMATION*}

FACILITY NAME_____ INSPECTION DATE_____
LOCATION_____ PROGRAM LEVEL_____

California Accidental Release (CalARP) Program Risk Management Plan

☐ Routine ☐ Combined ☐ Joint Agency ☐ Multi-Agency ☐ Complaint ☐ Re-inspection

RISK MANAGEMENT PLAN - PREVENTION PROGRAM	C	V	COMMENTS
Compliance Audits			
5 Year Accident History			
Incident Investigation			
Emergency Response Program			
Hazard Assessment			
Safety Information			
Training Documentation			
Operating Procedures			
Maintenance Procedures			
Mechanical Integrity			
Management of Change			
Pre-Start Up Review			
Employee Participation			
Hot Work Permit			
Contractor Safety			

C=Compliance V=Violation

Comments: _____
_____

Inspector: _____
{AA Name and telephone #}

_____
Business Site Responsible Party

Appendix H

Acronyms

AA	Administering Agency
AIChE/CCPS	American Institute of Chemical Engineers/Center for Chemical Process Safety
API	American Petroleum Institute
ASME	American Society of Mechanical Engineers
Cal OSHA	California Occupational Safety and Health Administration
CalARP	California Accidental Release Prevention Program
Cal/EPA	California Environmental Protection Agency
CAMEO	Computer-Aided Management of Emergency Operations
CAS	Chemical Abstract Service
CCR	California Code of Regulations
CFR	Code of Federal Regulations
CEPPO	Chemical Emergency Preparedness and Prevention Office
CICC	Chemical Industry Council of California
CUPA	Certified Unified Program Agency
DA	Designated Agency
DOT	United States Department of Transportation
EHS	Extremely Hazardous Substance
HSC	Health and Safety Code
MSDS	Material Safety Data Sheet
NFPA	National Fire Protection Association
NOAA	National Oceanic and Atmospheric Administration
NRC	National Response Center
OES	Governor's Office of Emergency Services
OSHA	Occupational Safety and Health Administration
PA	Participating Agency
RMP	Risk Management Plan
RS	Regulated Substance
SEMS	Standardized Emergency Management System
SIC	Standard Industrial Classification
T19	Title 19, California Code of Regulations
T27	Title 27, California Code of Regulations
TQ	Threshold Quantity
UPA	Unified Program Agency
UFC	Uniform Fire Code
UNIDOCS	Uniform Documents Project
USEPA	United States Environmental Protection Agency

Appendix I

Resource List

Agency	Document Title	Location/URL
	Local Government	
California CUPA Forum	Various including: CalARP Program Bulletin Board	http://www.calcupa.net http://www.calcupa.net/cgibin/ubb/ultimatebb.cgi
LA Co. Fire Dept, Health Hazmat Div.	• Region 1 LEPC CalARP Program Implementation Guidance Document • Guidance for CalARP Program Seismic Assessments	http://www.lacofd.org/riskmgmt.htm
Orange County Fire Authority, Hazmat Services Section	• OCFA's CalARP Program Guidance Document • Process Hazards Analysis/Review Aids • List of consultants	http://www.ocfa.org/business/hmss/rmppage1.htm
	State Government	
Governor's OES	• CalARP Program regulations • General Program information and links • (this document will be added in the future)	http://www.oes.ca.gov (go to "Hazardous Materials" then to "CalARP Program")
Cal/EPA	Unified Program information including: CalARP Program Evaluation Qs	http://www.calepa.ca.gov/CUPA
CA Office of Admin. Law	Regulations	http://ccr.oal.ca.gov
California Legislative Info.	Statutes, and bill information	http://www.leginfo.ca.gov
	Federal Government	
USEPA	FedARP Program information including RMP*Submit, RMP*Comp, Q&As, fact sheets, and the following RMP guidance: • General • Auditing RMPs • Ammonia Refrigeration • Propane Storage Facilities • Wastewater Treatment Plants • Warehouses • Chemical Distributors • Offsite Consequence Analysis • Technical Background Document for Offsite Consequence Analysis for Anhydrous Aqueous Ammonia, Chlorine, and Sulfur Dioxide	http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/index.html
USEPA	Envirofacts Warehouse	http://www.epa.gov/enviro/html/qmr.html#risk

US Dept of Commerce	Census Bureau information including LandView information	http://www.census.gov/geo/www/tiger
USEPA/NOAA	CAMEO Emergency response software including Aloha chemical dispersion model	http://www.epa.gov/ceppo/cameo/index.htm
NOAA	Information from the Office of Response and Restoration	http://response.restoration.noaa.gov
Legal Information Institute	US Codes	http://www4.law.cornell.edu/uscode
Industry and Technical Reference		
MSDS	MSDS Search	http://www.msdssearch.com/DBLinksN.htm
TOXNET	Databases of toxicological and hazardous material information	http://toxnet.nlm.nih.gov/
Chemfinder	e-database of chemical information	http://chemfinder.cambridgesoft.com/
NAICS	NAICS vs. SIC information	http://www.naics.com/index.html
American Chemical Society	Information from the chemists' professional society	http://www.acs.org/portal/Chemistry
Chlorine Institute	Information on chlorine	http://www.cl2.com/
Chemical Industry Council of CA	Chemical association information	http://www.cicc.org/

Appendix J
Federal Registers Potentially Affecting the CalARP Program*

FedARP Program Section	CalARP Program Section	Federal Register Date	Nature of Federal Change
68.3	2753.3	1/6/99	Definition of "NAICS" added.
68.10(d)(1)	2735.4(e)(1)	1/6/99	Use of NAICS Codes rather than SIC Codes.
68.25	2750.3	5/26/99	(e)(1), (e)(2) and (f) added to worst-case release scenarios.
68.42(b)(3)	2750.9	1/6/99	Quantities in mixtures.
68.42(b)(4)	2750.9	1/6/99	NAICS Code for the process.
68.130(b)	2770.5	1/6/98	Basis for listing.
68.150(e)	2745.1	1/6/99	Confidential Business Information.
68.151	2745.1.1	1/6/99	Confidential Business Information.
68.152	2745.1.2	1/6/99	Confidential Business Information.
68.160(b)(1)	2740.1(d)(1)	1/6/99	Additional latitude and longitude requirements.
68.160(b)(7)	2740.1(d)(7)	1/6/99	NAICS rather than SIC Codes.
68.160(b)(14)-(18)	2740.1(d)(14)-(18)	1/6/99	Additional optional fields in Registration.
68.165(b)(2)	2745.4	1/6/99	Percent weight in a mixture.
68.170(b)	2745.6	1/6/99	NAICS rather than SIC Codes.
68.175(b)	2745.7	1/6/99	NAICS rather than SIC Codes.

*At this time, these federal registers have not been incorporated into the CalARP Program.

This Appendix will always be under construction, as the FedARP Program is ever changing. The following Federal Registers from 1998 to the date of this Guidance Document, may have some effect on the FedARP Program, and will be researched for potential effects on the CalARP Program regulations:

63 FR 644, 1/6/98
63 FR 645, 1/6/98
64 FR 979, 1/6/99
64 FR 980, 1/6/99
1/12/99
64 FR 28700, 5/26/99
64 FR 29170, 5/28/99
6/25/99
7/29/99
65 FR 13250, 3/13/00
4/27/00
65 FR 48107-48133, 8/4/00
1/17/01
3/16/01
5/23/01
68 FR 25367, 5/12/03
68 FR 45132, 7/31/03

Appendix K
CalARP Program Evaluation Questions

CITATION (TITLE 19 CCR UNLESS INDICATED)	PRELIMINARY INFORMATION
2780.5(a) & (b)	1. Provide a copy of your annual CalARP Program audit report to the OES evaluator. Note: This is not the same as the Title 27 self-audit requirements. a) How many stationary sources have you identified? b) How many in each program level? Program Level 1: Program Level 2: Program Level 3: Note: This will be utilized to determine the extent of the evaluation. c) How did you identify these stationary sources?
	Article 1 – General
	General Requirements:
2735.5(a)	2. How does the O/O coordinate and consult with the AA to implement the CalARP Program requirements? 3. Has each O/O consulted with the AA to determine the level of documentation required in the RMP?
2735.5(c)	4. Has the AA coordinated with each O/O regarding acceptable use of model RMPs? Note: Model RMPs can be found at USEPA's website at http://www.epa.ca.gov/ceppo and also at various industry/trade group sites.

	Article 2 – Registration
2740.1 (c)	5. Has the AA requested registration from a stationary source prior to submittal of the RMP?
2740.1 (a) & (b)	6. Did all RMPs submitted to the AA include a completed registration form?
2740.1 (c)	7. If the registration was submitted prior to an RMP submittal, did the registration include a certification of accuracy?
2740.1 (d)	8. Did the registration include the following data: a) Stationary source name, street, city, county, state, zip code, latitude, and longitude; b) The stationary source's Dun and Bradstreet number; c) Name and Dun and Bradstreet number of the corporate parent company; d) The name, telephone number, and mailing address of the owner or operator; e) The name and title of the person or position with overall responsibility for RMP elements and implementation; f) The name, title, telephone number, and 24-hour telephone number of the emergency contact; g) For each covered process, the name and CAS number of each regulated substance held above the threshold quantity in the process, the maximum quantity of each regulated substance or mixture in the process (in pounds) to two significant digits, the SIC code, and the Program level of the process; h) The stationary source USEPA identifier; i) The number of full-time employees at the stationary source; j) Whether the stationary source is subject to Section 5189 of Title 8 of CCR; k) Whether the stationary source is subject to Part 355 of Title 40 of CFR; l) Whether the stationary source is subject to an operating permit under Title V of CAA; and m) The date of the last safety inspection of the stationary source by a federal, state, or local government agency and the identity of the inspecting entity?
	Article 3 - Risk Management Plan Components and Submission Requirements

	Risk Determination:
HSC 25534	9. Has the AA made risk determinations for all stationary sources that only handle regulated substances above the threshold quantity listed on Table 3, but below the threshold quantity on Table 1, if applicable?
2735.4 (a)(2)	10. If the AA has determined that a stationary source may pose an accident risk, has the AA:
2735.4 (e)(3)	a) Requested the preparation and submission of all RMPs? b) Reclassified any covered processes from program level 2 to program level 3?
HSC 25534(b)(2)(A)	11. If the AA has determined that a stationary source does not pose a significant likelihood of an accident risk, has the AA: a) Exempted any stationary source from the RMP requirement? Note: Defer to Cal/EPA for discussion of surcharge.
HSC 25534(b)(2)(B)	b) Required an RMP be submitted, and reclassified a covered process from program level 3 to program level 2 or program level 2 to program level 1?
	Submission:
2745.1(a)	12. Has the AA insured that all facilities in its jurisdiction that handles a regulated substance above the TQ as found on Table 1,Table 2, or Table 3 (if required) in a covered process submitted an RMP?
2745.1(b)	13. Did the O/O submit their RMPs to USEPA by the required timeframes, if applicable?
2745.1(c)	14. How does the AA ensure they are receiving copies of all RMPs submitted to USEPA?
2745.1(d)	15. Did the AA consult with each O/O to determine the RMP submission date for existing stationary sources?
	16. If yes, did the AA allow the O/O 12 – 36 months to prepare and submit an RMP for the covered process(s)? Note: This pertains to Table 3 only regulated substances, and not above Table 1 TQs, if applicable.
2745.1(e)	17. Has the O/O of new or modified stationary source(s) submitted their RMP to the AA prior to the date the regulated substance is first present in a process above the TQ? Note: This pertains to Table 3 only regulated substances, and not above Table 1 TQs, if applicable.
2745.1(g)	18. Has the AA consulted with the Agricultural Commissioner on

	regulated substances, which are pesticides used on farms or nurseries to evaluate if the existing RMP is adequate?
	RMP Review Process:
	Consultation and review:
2745.2(a)(1)	19. Has the AA worked closely with the O/O to determine that the RMP contains an appropriate level of detail?
	Initial Public Notice:
2745.2(a)(2)	20. Did the AA publish an initial public notice in a local newspaper of general circulation stating that an RMP has been submitted and the AA has initiated the process for government and public review?
	Deficiency Notice:
2745.2(a)(3)	21. Did the AA review each RMP to determine if all the elements pursuant to Sections 2745.3 through 2745.9 are contained in the document?
	22. What method does the AA use to notify the O/O of noted deficiencies?
	Note: Has the AA involved the local air quality management district/air pollution control district with the technical review of an RMP?
2745.2(a)(3)(A)	23. Does the AA allow sixty (60) calendar days to correct deficiencies?
	Note: An O/O may request, in writing, a one-time 30-calendar day extension.
	24. What does the AA do if a corrected RMP is not submitted within the allowable time period?
	Note: Penalties are specified in HSC 25540 and 25541.
2745.2(a)(3)(B)	25. If no deficiencies were identified, has the AA accepted the RMP as complete and submitted the RMP for formal public review?
	Formal Public Review:
2745.2(a)(4)	26. Did the AA, within 15-calendar days of determining an RMP is complete, make the RMP available for formal public review and comment by publishing an announcement in a local newspaper of general circulation?
2745.2(a)(4)	27. Did the AA allow 45 days for public review and comment of the RMP?
	Evaluation Review:
2745.2(a)(5)	28. Did the AA begin the evaluation review at the end of the public review

	period?
2745.2(a)(6)(A)	29. Did the AA complete the evaluation review within 36 months for RMPs that included only program level 1 or program level 2 processes?
2745.2(a)(6)(B)	30. Did the AA complete the evaluation review within 24 months for any RMPs that included program level 3 processes?
	Public Access:
2745.2(a)(8)	31. What process does the AA use to process requests for public information?
	RMP Executive Summary:
2745.3	32. Do all RMP's contain an executive summary?
	33. If so, does the executive summary contain the elements required by Section 2745.3(a) – (g)?
	RMP Program 2 and 3 Prevention Program Component
	External Event Analysis:
2745.6(l) 2745.7(q)	34. Has the AA ensured that all program level 2 or 3 RMPs contain an external event analysis in the Process Hazard Analysis or Hazard Review sections?
2745.6(l)(2) 2745.7(q)(2)	35. If the magnitude or scope of the external events were unknown, did the O/O work closely with the AA to determine what information was required?

	Article 4 - Hazard Assessment
2750.7(a)	**Offsite Consequence Analysis (OCA) Review and Update:** 36. What method does the AA use to ensure the O/O review and update the OCA information at least once every 5 years?
2750.7(b)	37. What method will the AA use to ensure the O/O revises the OCA within six months of a significant change and submit a revised RMP?
	Article 5 - Program 2 Prevention Program
2755.2(b)	**Hazard Review:** 38. Has each O/O consulted with the AA to select the appropriate methodology for the Hazard Review?
	Summary of Program 2 Updates: 39. What method does the AA use to verify updates to program elements of the RMP:
2755.1(c)	a) Safety information after a major change occurs?
2755.2(f)	b) Hazard review every 5 years or after a major change?
2755.3(c)	c) Operating procedures updated prior to start-up whenever a major change occurred?
2755.4(a)	**Training:** 40. How does the AA verify that the O/O has provided the proper initial training?
2755.4(b)	41. How does the AA verify employees receive refresher training at least every 3 years?
2755.4(d)	42. How does the AA verify that operators are trained in any updated or new procedures prior to start-up of a process after a major change? Note: Possible answers include review of training records, personal interviews, and training oversight.
2755.5(d)	**Maintenance:** 43. How does the AA verify the O/O performs inspections and tests on process equipment? Note: Possible answers include review of maintenance logs/records, verification of industry standards/codes and manufactures recommendation.
2755.6(a)	**Compliance Audits:** 44. How does the AA verify the O/O has conducted a compliance audit at least every three years? Note: Possible answers include review certification, audit reports, and documentation of corrected deficiencies.

2755.7(a)&(b)	**Incident investigation:** 45. If there is an incident that resulted in, or could have resulted in, a catastrophic release, how does the AA verify that the O/O initiated an investigation within 48 hours of each incident? Note: Possible answers include an onsite visit with the O/O soon after a reported release, review of the summary findings and documentation of corrected deficiencies. Note: O/O are required to provide an immediately verbal report of any release or threatened release of a hazardous material per T19, Section 2703 and HSC Section 25507.

	Article 6 - Program 3 Prevention Program
	Process Hazard Analysis (PHA):
2760.2 (b)	46. Has the AA worked closely with the O/O to provide input in deciding which PHA methodology is best suited to determine the hazards of the process being analyzed? If yes, how?
2760.2 (f)	47. What method does the AA use to verify updates and revalidation to the PHA at least every 5 years? Note: Possible answers include review of documentation during inspection.)
	Operating Procedures:
2760.3 (b)	48. How does the AA verify the operating procedures are: Readily accessible to employees?
2760.3 (c)	49. Annually certified as current and accurate by O/O? Note: Possible answers include verification during inspection.
	Training:
2760.4(c)	50. How does the AA verify the O/O ensures that employees understand all required training? Note: Possible answers include review of training records, personal interviews, and training oversight.
	Mechanical Integrity:
2760.5(b)	51. How does the AA verify that the O/O established and implemented written maintenance procedures?
2760.5(e)	52. How does the AA verify that the O/O has corrected identified equipment deficiencies?
	Management of Change:
2760.6	53. How does the AA verify that the O/O has established and implemented written procedures to manage changes that affect a covered process?
	Pre-Startup Review:
2760.7(a)	54. How does the AA verify that the O/O has preformed a pre-startup safety review for new or modified stationary sources when the modification is significant enough to require a change in the process safety information?
	Incident investigation:
2760.9(g)	55. How does the AA verify the O/O retains incident investigation reports for 5 years?

	Note: O/O are required to provide an immediately verbal report of any release or threatened release of a hazardous material per T19, Section 2703 and HSC Section 25507.
2760.10(a)	**Employee Participation:** 56. How does the AA verify that the O/O has developed a written employee participation plan? Note Possible answers include verification during inspection.
2760.11	**Hot Work Permit:** 57. How does the AA ensure the O/O has a process for issuing hot work permits? Note: Possible answers include verification of procedures or documentation during inspection.

	Article 7 - Emergency Response Program
2765.1(b)	**Emergency Response Applicability:** 58. For those stationary sources whose employees will not respond to accidental releases of regulated substances, how does the AA verify the O/O has met the following requirements: a) The stationary source with any *toxic* regulated substances is included in the community emergency response plan developed under Section 11003 of Title 42 of the USC Note: LEPC requirement – Regional Plan, and the Area Plan developed under Article 1 of HSC Chapter 6.95); b) The stationary source with regulated *flammable* substances (only) has coordinated response actions with the local fire department; and c) The stationary source has appropriate mechanisms in place to notify emergency responders when there is a need for a response.
2765.2(a)	**Emergency Response Program:** 59. How does the AA verify that the following requirements for the O/O's emergency response program are met? a) The development and implementation of an emergency response plan; b) Procedure for the use of emergency response equipment and for its inspection, testing, and maintenance; and c) Training for all employees in the Incident Command System.
2765.2(c)	60. How does the AA verify that the emergency response plan has been coordinated with the community emergency response plan?
	Article 9 - Other Requirements
2775.2 (a)	**Audits:** 61. How frequently does the AA select stationary sources for audits?
2775.2 (b)	62. What criteria are the audits based on? Note: Acceptable criteria include accident history of the stationary source; accident history of other stationary sources in the same industry; quantity of regulated substances present at the stationary source; location of the stationary source and its proximity to the public and environmental receptors; the presence of specific regulated substances; the hazards

	identified in the RMP; and a plan providing for neutral, random oversight.
2775.2(e)-(i)	63. What process does the AA use for necessary revisions? Note: Process is identified in Section 2775.2
	Inspections:
2775.3	64. Has the AA inspected every stationary source, which is required to be registered pursuant to this chapter at least once every three years to determine whether the stationary source is in compliance with this chapter?
	Availability of Information to the Public:
2775.5(a)	65. How does the AA provide RMPs for public review?
2775.5(b)	66. How does the AA restrict the release of classified information?
2775.6	67. Has there been any coordination between the CUPA and the local air pollution control district/air quality management district for any RMPs? Note: This requirement is only for Table 1&2 facilities, which are also subject to Part 70 or 71 of Title 40 CFR - Title V air permits. However, the local air districts may be willing to provide technical assistance for Table 3 substances as well and many air districts have air-modeling expertise.

	Article 10 – Local Program Evaluation
2780.1(a) 2780.3	**Dispute Resolution:** 68. Has the AA established a procedure necessary to implement a dispute resolution process that contains the following elements? a) Provide that the O/O may initiate the dispute resolution process by serving the AA with prompt, written notice of a dispute; b) Identify the official(s) or other employee(s) of the AA who will resolve disputes arising under this Section; c) Set procedures and timetables for providing argument and supporting materials to the AA; d) Require that the AA render a written decision within 120 days after the O/O initiates the dispute resolution process; and e) Use the CUPA dispute resolution process, if the AA is also a CUPA, providing that such process is consistent with the criteria in (a)(1) through (4) above.
	Article 11 – Technical Assistance
	Technical Assistance:
2785.1(a) 2785.1(b)	69. How does the AA coordinate with the O/O to ensure that appropriate technical standards are applied to the CalARP Program? 70. How does the AA provide technical assistance to the O/O?